

# AMERICAN BEE JOURNAL

MAY

1915

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# American Bee Journal



PUBLISHED MONTHLY BY  
**American Bee Journal**  
 1st Nat'l Bank Bldg. Hamilton, Illinois

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## Celebrated Queens Direct from Italy

**Bees More Beautiful, More Gentle, More Industrious, Long Tongued, The Best Honey-Gatherers.**

PRIZES:—VI Swiss Agricultural Exposition, Berne, 1895. Swiss National Exposition, Geneva, 1896. Bee-Keeping Exhibition, Liege Belgium, 1896. Bee-Keeping Exhibition, Frankfurt O. M. (Germany). Convention of the German, Austrian and Hungarian Bee-Keepers, August, 1907.

**Universal Exposition, St. Louis, U.S.A., 1904, HIGHEST AWARD**  
 Dominion of Canada, Department of Agriculture, Central Experimental Farm.

OTTAWA, Sept. 5, 1913

Sir:—I am pleased to inform you that the three queens were received in good condition, and have been safely introduced.

(Signed) C. GORDON HEWITT,  
*Dominion Entomologist.*

Oklahoma Agricultural Experiment Station,  
 STILLWATER, Oct. 7, 1913.

Your queen arrived in first-class condition, and introduced her without any difficulty.

(Signed) PROF. E. C. SANBORN,  
*State Entomologist.*

Extra Breeding Queens, \$3.00; Selected, \$2.00; Fertilized, \$1.50; lower prices per dozen or more Queens. Safe arrival guaranteed. Write

Member of the **ANTHONY BIAGGI**,  
 National Bee-keepers' Ass'n } Pedevilla, near Bellinzona,  
 Italian Switzerland.

This country, politically, Switzerland Republic, lies geographically in Italy, and possesses the best kind of bees known.

Please mention Am. Bee Journal when writing.

## Bee-Supplies

### LET US FIGURE WITH YOU

We know we can satisfy you on quality.  
 Write for catalog.

**C. C. CLEMONS BEE-SUPPLY CO.**  
 Dept. S., Kansas City, Mo.

"Griggs Saves You Freight"

# TOLEDO

"Griggs Saves You Freight"

## Now for 1915 Supplies

We want every beekeeper to have our **FREE** illustrated catalog of everything used by beemen, also our special price-list of

## POULTRY FEEDS

If **quality, prices and service** count with you, together with saving in **freight**. Don't order your supplies until you have it.

We use large quantities of Beeswax and Honey.

## Do You Wish Pure Maple Syrup?

We have it and the best made, too, \$1.50 per gallon.

**S. J. GRIGGS & CO.** Dept. A, Toledo, Ohio

*Griggs is on the job.*

## INCREASE THE YIELD OF YOUR FARM

The European war is doubling the demand for American farm products. We can increase our acreage but this will not meet the demand—we must increase our yields per acre. We must do better farming, not only in the East and Middle West, but in the great grain raising territory west of the Missouri River.

Everybody knows that by following the Campbell System of Soil Culture, crop yields have been doubled in every State of the Union from New York to California. Why not learn what the principles of the Campbell System are and adopt them? You can get all this and a thorough agricultural education without leaving home by taking a course in the

## Campbell Correspondence School of Soil Culture

You can have your choice of eight courses, Soil Tillage, Soil Improvement, Small Farming, Horticulture, Irrigation, Dry Farming, Farm Engineering and Animal Husbandry, all for a nominal tuition fee, no board to pay, no books to buy, everything furnished, and you can use your spare time while still running your farm or holding your job.

We cannot tell you all about these courses, the faculty and the free bureau of advice in this ad, but we will be glad to send you full information at any time. Write and ask for our free catalog No. 3, and a sample copy of the Scientific Farmer.

**Campbell Scientific Soil Culture Company** Billings, Montana

## THREE-BANDED ITALIANS—GET THE BEST

Twenty years of breeding and selection has resulted in an exceptionally vigorous and long-lived strain of bees, unexcelled for gentleness, prolificness and honey-gathering qualities. No disease.

	Before May 1st			After May 1st		
	1	6	12	1	6	12
Untested. ....	\$1.25	\$ 6.50	\$11.50	\$ .75	\$4.00	\$ 7.50
Tested. ....	1.50	8.00	15.00	1.25	6.50	12.00
Select tested. ....	2.00	10.00	18.00	1.50	8.00	15.00
1-lb. pkg. bees. ....	2.00	11.00	21.00	1.50	9.00	18.00

Breeders, \$5.00 each, any time.

Safe arrival and satisfaction guaranteed on all queens to all points in United States and Canada. Queens for export are carefully packed in export cages; but safe arrival is not guaranteed. Bees by the pound guaranteed within six days of Mathis, Tex. If queen is wanted with bees by the pound, add price of queen wanted to price of bees. Better let me book your orders now.

**H. D. MURRY, MATHIS, TEXAS**

## Beekeepers' Supplies

Write us for our 64-page catalog. **FREE.** Full information given to all inquiries. Let us hear from you. We handle the best make of supplies for the beekeeper. Beeswax exchanged for supplies or cash.

**J. NEBEL & SON SUPPLY CO.,**  
 High Hill, Montg. Co., Mo.

**WESTERN BEE-KEEPERS** can save get the best goods obtainable, especially made to meet Western condition. Send for new catalog and special price list to

**Colorado Honey-Producers' Association**  
 Denver, Colorado









# American Bee Journal

## CEDAR WOOD

Hive bodies, 8 or 10 frame, 25c each. Covers and bottoms, prices upon application. Falcon Foundation and Bee Supplies.

### FROFALCON QUEENS

Everything for the beekeeper. Address.  
**J. C. Frohlinger, Berkeley, Calif.**  
Greater San Francisco

## Wanted

### Choice Grades of EXTRACTED HONEY

Send Sample and State Quantity  
How packed and the lowest  
price you will take

We are always in the market for  
Beeswax, and pay highest market  
prices.

### Hildreth & Segelken

265-267 Greenwich St., New York, N. Y.

## TRY MY FAMOUS QUEENS

### From Improved Stock

The best that money can buy; not inclined  
to swarm, and as for honey gatherers they  
have few equals.

### 3-Band Golden, 5-Band and Carniolan

bred in separate yards, ready March 20. Un-  
tested, 1, \$1.00; 6, \$5.00; 12, \$9.00; 25, \$17.50; 50,  
\$34; 100, \$65. Tested, 1, \$1.50; 6, \$8.00; 12, \$15.00.  
Breeders of either strain, \$5.00. Nuclei with  
untested queen, 1-frame, \$2.50; six 1-frame,  
\$15.00; 2-frame, \$1.50; six 2-frame, \$20.40;  
nuclei with tested queen, 1-frame, \$3.00; six  
1-frame, \$17.40; 2-frame, \$1.00; six 2-frame,  
\$24.40. Our Queens and Drones are all reared  
from the best select queens, which  
should be so with drones as well as queens.  
No disease of any kind in this country. Safe  
arrival, satisfaction and prompt service  
guaranteed.

**D. E. BROTHERS, Attalla, Ala.**

## BUCKEYE CHAFF HIVES DOVETAILED HIVES

Sections, Comb Foundation  
Choice Northern-Bred Italian Queens  
Bees by the pound

General Agents for Root's Goods in Michigan

SEND FOR 1916 CATALOG

**M. H. HUNT & SON**  
Lansing, Mich.

## QUINN'S QUEENS OF QUALITY

Not coming, but are here to stay. Best  
bee for any climate; purest of the pure.

### GREY CAUCASIANS

Bred strictly in the light of Mendel's Laws  
of Heredity; no guess, but positive results,  
the pioneer scientific queen-rearing estab-  
lishment of America. We lead, others may  
follow. Every queen guaranteed as to purity  
of mating.

Special isolated mating station on bald  
open prairie, not a tree within miles—no  
chance for gypsy drones.

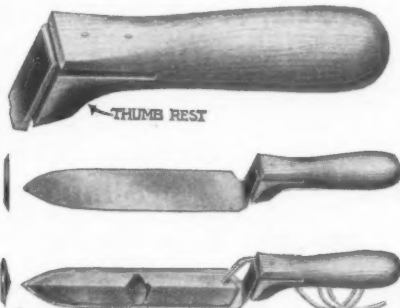
**CHAS. W. QUINN**

Box 389 - Beaumont, Texas

## Bingham Honey Uncapping Knives

With the New Improved COLD HANDLE

Standard length, 8 1/2 inch, each.....	\$ .75	Ship. weight, 15 ounces
Extra long 10.....	.85	10
Steam heated with 3 ft. tubing each....	2.50	24



Our knives are made of the best razor  
steel, and we could produce them at least 10  
cents per knife cheaper by using inferior  
material. Mr. W. W. Culver, of Calexico,  
Calif., writes: "We have had difficulty in  
getting Bingham Knives, such as we are ac-  
customed to; that is, a light flexible knife  
that will give some in moving over the comb.  
If you can furnish such a knife, send two  
standard and one steam knife. If the steam  
knife suits me I will want about three."  
This is just the kind of knife we furnish;  
the kind Mr. Bingham furnished years ago  
before others crowded him out with their  
inferior substitutes. We know because we  
have kept bees nearly 40 years. Old timers  
will again find what they want in our Bingham Knife.

**A. G. WOODMAN COMPANY,**  
Grand Rapids, Mich.

## SECTIONS "GOOD ENOUGH" BRAND

By eliminating the expense of grading and inspection, we are enabled to put on the  
market this special brand of Mill Run Sections at low prices, in addition to our regular  
Lewis Brand stock. They are made by the best machinery, and undergo the same process  
of manufacture, such as sanding, polishing, etc., as the highest priced sections on the mar-  
ket, but no attempt is made at grading, and they include both the first and second grades.  
Sold only by the crate of 500. We have them only in the following sizes this season: 4 1/4 x 4 1/4  
x 1 1/2 beeway, 4 1/4 x 4 1/4 x 1 1/2, and 4 x 5 x 1 1/2 plain. The stock on hand is fine and it will please you.  
Write us for prices on large quantities. Many orders for these sections are arriving some  
as high as 25,000, and all are pleased. A trial order will convince you they are good enough.

500 in crate.....	\$2.50	5000 to 9500, per M.....	\$1.25
1000 to 4500, per M.....	4.50	10,000 or more.....	4.00

**A. G. WOODMAN CO.,**

Grand Rapids, Mich.

## Woodman's Section-Fixer

A combined Section  
Press and Founda-  
tion-fastener of  
pressed steel  
construction

WHITE CITY, KAN., March 11, 1915.  
Dear Sirs:—I ordered one of your section  
fixers and a hive tool, and would say that it  
beats anything I have ever used heretofore. It  
is a fast machine and a labor saver.

CHAS. SHELDON.

ROCHESTER, WASH., April 12, 1915.  
A. G. WOODMAN Co.—The Section Fixer re-  
ceived in good condition, and does fine work  
after a little use. It will pay for itself in a  
short time. Yours truly, L. R. BOAMSNESS.

DEFIANCE, OHIO, April 5, 1915.  
Gentlemen:—(P. S. to a second order). Thought  
we had a good fixer, but not in it with yours,  
the best I have ever seen. I demonstrate before  
they go out; haven't had a bit of trouble, and  
expect to sell a good many. Respectfully,  
E. M. COLWELL.

REDFORD, KY., Jan. 12, 1915.  
A. G. WOODMAN Co.—Please send me your  
best prices on bee-supplies. I have one of your  
section fixers, and will say it is the best I ever  
saw. I would not be without it for twice what  
it cost me. Hoping to hear from you soon.

Price with lamp and one form, \$2.75. Without lamp, \$2.50. Shipping weight, 5 lbs.  
postage extra. Send for special circular. 10 illustrations.

**A. G. WOODMAN CO.,**

Grand Rapids, Michigan



Truly yours, ROBERT W. HALL.

## PORTER BEE ESCAPE

SAVES  
HONEY  
TIME  
MONEY



For sale by all dealers.

If no dealer, write factory

**R & E. C. PORTER, MFRS.**  
Lewistown, Ill., U. S. A.

## 3-BAND ITALIAN QUEENS

FOR SALE AFTER MAY 1

This stock of bees does get the honey when  
there is any to get. One untested, \$1.00; 6,  
\$5.00; 12, \$10.50; 25, \$25.50; 50, \$46. One lb. of  
bees with queen, \$3.00; 2 lbs. with queen,  
\$5.00. All queens are mated and laying be-  
fore sending out. No tested queens for sale.  
The above prices must be doubled when  
sending queens to foreign lands. If queen  
arrives dead, send it back and get another  
or the money. No checks accepted in any  
case. (My former address was Cato, Ark.)

Address, **J. B. ALEXANDER**  
R. R. No. 1, Jacksonville, Ark.

# American Bee Journal

**That neighbor of yours and yourself did you both get  
copies of our Catalog?—If not, a postal will bring  
it to you both, free for the asking**

Now, for about forty years "**Falcon**" **Quality** has stood beside our customers. It's nothing unusual to get letters from customers saying, "We have been purchasing our supplies of you for twenty-five years, and find them entirely satisfactory in every respect." Then, again, some of our newer customers ask us to send them copies of our Catalog, as they have given our Catalog to a neighbor. It goes to show A **SATISFIED CUSTOMER IS OUR BEST ADVERTISEMENT.**

**RED CATALOG, Postpaid**

**- "Simplified Beekeeping," Postpaid**

**DEALERS EVERYWHERE**

**W. T. Falconer Mfg. Co., Falconer, New York**

*Where the good bee-hives come from*

## The Double-Walled Massie Bee-Hive



**THE MASSIE HIVE**

For Comb or Extracted Honey.

**Surest Protection for Bees—Increased Supply of Honey—**

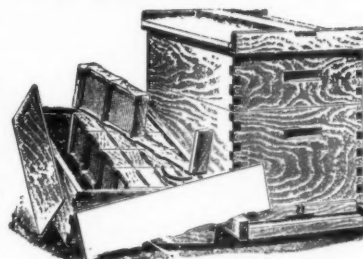
**The Best Hive for any Climate**

Furnished in the clearest of lumber in either Cypress, White Pine or Redwood  
All Brood and Extracting Frames Made from White Pine

**THE MASSIE VENTILATED BOTTOM**

Admits fresh air into the hive, lessening the chance for swarming,  
and giving renewed energy to the bees.

Fifty years in the bee supply business has shown us that  
the **MASSIE** is the **very best hive**, and testimonials  
to this effect are received daily from those who are  
using this hive.



The Dovetailed Hive for Comb Honey

**WHY NOT GIVE US A TRIAL ORDER?**

**SATISFACTION FULLY GUARANTEED**

We are also extensive manufacturers of **Dovetailed Hives** and all other **Apiarian Supplies**. If you are in the market for supplies be sure to get our prices before buying elsewhere. We will mail our large illustrated catalog and **special price list** to any one upon request.

**KRETCHMER MFG. CO., COUNCIL BLUFFS, IOWA**

## CLOSING OUT SALE

—OF—

### BEE BOOKS, VEILS AND SMOKERS

I have some of the following that I would like to close out at once, and on which I make *reduced prices, all postpaid*:

"Langstroth on the Honey-Bee" (Latest edition, \$1.20).....	\$1.00
"Songs of Beedom" (10 bee-songs—25c).....	.15
"Honey-Money Stories" (25c).....	.15
Hand's "Beekeeping by 20th Century Methods" (50c).....	.30
Wilder's "Southern Bee-Culture" (50c).....	.35
Danzenbaker Bee-Smoker (\$1.00).....	.80

**GEORGE W. YORK, SANDPOINT, IDAHO**

## ITALIAN NORTHERN QUEENS BRED

Superior winterers, second to none. My free list explains it all. Un-  
tested, \$1.00; select tested, \$1.50. Bees by the  
pound or half pound. Plans, "How to  
Introduce Queens," 15 cents; "How to In-  
crease," 15 cents; both, 25 cents.

**E. E. MOTT, GLENWOOD, MICH.**

## BEES! BEES!

I can fill your order for bees and queens  
immediately. One-pound cage bees, \$1.50;  
two-pound cage, \$2.50. Two-comb nucleus,  
\$2.75; three-comb nucleus, \$3.75. One dollar  
extra for untested queen. Select tested  
1014 queen, \$2.00. 5 percent discount on or-  
ders for six or more.

**H. C. AHLERS, Jonesville, La.**



## FREE!

Our new Bee Book of 68 pages  
—150 illustrations, is just off  
the press. Contains valuable  
information for beginners in  
bee culture, as well as for ex-  
pert bee-keepers. We have  
everything for the apiary, in-  
cluding the bees. We ship  
same day order is received.

**BLANKE MFG. & SUPPLY CO.,**  
209 Washington Ave., St. Louis, Mo.

Established 1899



# American Bee Journal

## IT'S A LONG WAY TO TIPPERARY

But it's a short way to success if your colonies are headed with queens from **The J. E. Marchant Bee and Honey Company**, breeders of the highest grade of Island-bred Italian Queens.

Pure mating guaranteed. Prices as following:

Untested queens.....	1	6	12	1/4-lb. Bees....	1	6	12
Tested .....	\$1.50	\$ 7.50	\$12.00	1-lb. " .....	\$1.50	\$ 7.50	\$12.00
Select tested.....	2.00	10.50	18.00	2 lbs. " .....	2.00	10.50	18.00
Breeders.....	3.00	15.00	24.00	3 lbs. " .....	3.00	15.00	27.50
Extra select breeders.	\$5.00 and 10.00			5 lbs. " .....	4.00	21.00	36.00
	25.00				5.50	27.50	50.00

These prices are without queens.

We will ship from Canton, Ohio, after June 1.

We guarantee safe delivery and a square deal. **Watch us grow.**

**The J. E. Marchant Bee & Honey Co.,**  
Apalachicola, Florida



## Untested Italian Queens

For a number of years we have been furnishing Italian queens to our customers, and their words of encouragement have led us to believe that our services are appreciated. Being in touch with many large breeders, we are in a position to furnish untested queens of first quality with but little delay. We can furnish either ordinary leather-colored or bright yellow queens as preferred. Prices as follows:

BEFORE JULY 1.			
1 untested.....	\$ 1.25	Tested Queens	
6 " .....	5.50		\$1.75 each
12 " .....	10.00		
AFTER JULY 1.			
1 untested.....	\$1.00	Tested Queens	
6 " .....	4.50		\$1.50 each.
12 " .....	8.50		

Special prices on larger lots on application.

## CAUCASIAN QUEENS

There has been much inquiry for this race of bees. We can fill orders for these queens at the same rates as above.

**American Bee Journal, Hamilton, Illinois**



## EAT HONEY



Advertising post cards. Original. Unique.  
Copyright. By the dozen or hundred.  
Samples 2 cents each. Six designs.  
**Dr. BONNEY, Buck Grove, Iowa**

## BEES and SUPPLIES

If you are in need of bees, queens, or apiarian supplies and want the best at a reasonable price, send for our catalog. 8 and 10 frame chaff hives, full colonies, nucleus colonies, or bees by the pound, shipped promptly. Tested Italian queens' \$1.50. Untested, \$1.00.

**I. J. STRINGHAM**

105 Park Place, New York

APIARIES: Glen Cove, L. I.

## NEW ENGLAND BEE KEEPERS

Everything in Supplies

New Goods. Factory Prices.  
Save Freight and Express Charges

**CULL & WILLIAMS CO.,**  
Providence, R. I.

## HONEY AND BEESWAX

CHICAGO, April 16.—The market has cleaned up on comb honey to a degree that is seldom reached at this time of the year, and we believe this is not only true of Chicago, but of every large market in the country. Therefore, the coming crop should meet with a good demand, and prices quite as high as the market closed at, for of late white comb honey has sold at 17@18c per pound without allowing for the weight of the wood attached. A little fancy brought 20c per pound without allowing for the weight of the wood attached. The fact of all grades of comb honey having been consumed should open the way for a free outlet of this coming harvest even though it prove to be a bumper one.

Extracted honey, on the contrary, is in abundance, and the lower grades are very difficult to sell. White clover and basswood has been used up and commands 9c per pound in our market now, but other white grades are selling at 7@7½c per pound while the ambers can be bought freely at 6c per pound, and off flavors at a still lower price. Beeswax is steady at 30@31c per pound.

R. A. BURNETT & Co.

KANSAS CITY, Mo., April 17.—Our market is about bare of comb honey, with considerable inquiry. The supply of extracted is large, with a very light inquiry, more especially for the dark grades. We quote: No. 1 white comb honey, 24 section cases, \$3.50 to \$3.60; No. 2, \$3.25 to \$3.35. No. 1 amber, \$3.25 to \$3.40. No. 2, \$2.75 to \$3.00. Extracted, white, per pound, 7½@8c; amber, 5@7c. Beeswax, 25@28c.

C. C. CLEMONS PRODUCE COMPANY.

INDIANAPOLIS, April 17.—The demand for comb honey is very quiet. There is a fair demand for extracted honey, and the prices are about the same as in our last report. No. 1 choice white comb is selling at \$1.50 to \$1.00 per case. Best grades of extracted are bringing 9½@10½c. We are paying 28c cash, or 3c in trade for pure average wax delivered here.

WALTER S. POWDER.

CINCINNATI, April 10.—Business is not good in the honey line, although the demand is looking up somewhat. We quote No. 1 comb honey at \$1.75 to \$1.00 per case, and extracted amber at 5½@7c, and white from 8@10c a pound. We are paying 28c a pound cash for beeswax or 30c a pound in trade.

THE FRED W. MUTH CO.

DENVER, April 10.—We have nothing to offer in comb honey, but have a good stock of first-class extracted honey, which we are offering at the following local jobbing prices: White, 8½@8¾c per pound; light amber 8@8½c, and amber strained, 7@8c. We buy beeswax and pay 28c per pound in cash and 30c per pound in trade for clean yellow bees' wax delivered here.

THE COLO. HONEY-PRODUCERS' ASS'N.  
Frank Rauchfuss, Mgr.

NEW YORK, April 10.—There is practically nothing new to report. The market is in a weak condition, the demand not being up to former years either on comb or extracted, and quotations in general are nominal. There is some demand for No. 1 and fancy white at around 14@15c, while off grades are neglected altogether. Extracted is quiet in all grades, with the exception of fancy white clover, which seems to be somewhat scarce. Beeswax is firm at from 29@30c per pound.

HILDRETH & SEGELKEN.

## CAUCASIANS and CARNIOLANS

First importer of these races from their native lands; 31 years' experience with Carniolans, 12 with Caucasians; resided and traveled in Carniola, Austria four years, giving my whole time to queen rearing; spent several months in bee explorations in the Caucasus, Russia. Untested queens, \$1.00; five for \$4.00. Tested, \$2.00 each; all from select mothers imported direct from apiaries personally inspected by myself, Japan, Australasia, and South America add one-half to above prices. Safe arrival guaranteed anywhere in the world.

**FRANK BENTON**

Cherrydale Station, Washington, D. C.



## **CAN IT BE?**

**That you haven't secured a copy of The New LEWIS 1915 CATALOG?**

**It has been almost entirely rewritten—44 pages—150 illustrations—showing articles more in detail than ever before—many articles are new—this is something different in the way of a Catalog from what we have ever before offered.**

## **An "A B C" Catalog**

**You don't have to be an expert to understand it—gives instructions to beekeepers—two whole pages devoted to LEWIS SECTIONS—the subject on which all beekeepers can agree**

**READ WHAT BEEKEEPERS HAVE TO SAY ABOUT THIS CATALOG :**

"Your catalog is the neatest and most comprehensive that I have ever seen, and the ease with which customers may select what they wish to order is plainly evident, thanks to the arrangement of your schedules."

"We wish to congratulate you on the fine appearance of your new catalog. It is very complete and nicely arranged throughout."

"We want to say a word about the new catalog. It is a beauty. There is nothing like it that we have ever seen in a bee-supply catalog. We want to congratulate you on its matter and its appearance."

"Your catalog is wonderful indeed, and you deserve great credit for this piece of work. It can't be improved on."

"The catalog is indeed in keeping with the high quality of your beeware."

"This is the best catalog you have ever sent out, and clearly indicates that you are a progressive firm, and that your aim is to supply only the best at reasonable prices. Have been connected with the lumber industry for thirty years, and know your claims in regard to grades and specifications of all materials used in your goods are correct as you state. Any contemplating buying Lewis Beeware need not beware of imperfect goods."

Writers of the above six testimonials are many of them prominent in the bee-keeping world, and their names will be furnished on application.

**Secure a copy of this splendid catalog today—It's free for the asking**

**G. B. LEWIS COMPANY**

**Manufacturers of Lewis Beeware**

**Watertown, Wisconsin**



(Entered as second-class matter at the Post-office at Hamilton, Ill., under Act of March 3, 1879.)

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C. P. DADANT, Editor.  
DR. C. C. MILLER, Associate Editor.

HAMILTON, ILL., MAY, 1915

Vol. LV.—No. 5

## EDITORIAL



## COMMENTS

### Spraying in Massachusetts

The State Board of Agriculture of Massachusetts has issued a fine poster in colors for the information of fruit growers, advising them to spray their fruit trees and warning them against spraying during bloom. Such a poster, issued by each State Board of Agriculture, would do much good. We quote one of its recommendations:

"Never allow your trees to be sprayed while the large pink or white blossoms are still on them, for the job will not be so well done; less fruit will be set, and many bees may be killed. Spraying just after the blossoms have fallen gives better protection from the apple worm, saves the bees and sets more fruit."

### The Southern Hemisphere

The New Zealand Farmer for March contains interesting articles on "Water Content of Honey," Statistics on Export, "Forty Years of Beekeeping in New Zealand," by I. Hopkins, and a number of other valuable items interesting to beekeepers. It seems a little strange to us, on the north side of the equator, to read of their fall crops and winter preparation in March, April, and May.

### Sections from Which the Combs Have Been Cut

Unfinished sections from which the bees have emptied the honey in the fall, if in perfect condition, are a valuable asset for use in the next summer. From this it would seem a pretty safe guess that if the sections be cut out,

leaving the margin of the comb on all sides, the bees would use them in a satisfactory manner. But one is not always safe in guessing, and submitting a thing to the bees may tell a different story. According to the experience of W. S. Pangburn, using such sections is not a success—at least not always. He says:

"In filling some supers I was short a few sections. Having a few nice clean ones from which we had used the honey, and which had from  $\frac{1}{8}$  to  $\frac{1}{4}$  inch of comb still remaining on all four sides, I placed one of these in the center of probably six supers, the rest of the sections being filled *à la* Miller, which, by the way, is the only way I have been able to produce a fancy and No. 1 article, and I have tried all ways, I guess. Imagine my surprise on running these supers to find perhaps one-half of these sections just as I put them on, with the balance of the super completed.

"Strange, isn't it? But, after all, bees, like people, do strange things sometimes and keep us guessing why. It wasn't a success with me this year on a small scale. Next year it might work, but, then, I don't know."

### Observing Hives

The reader will kindly refer to Dr. Miller's "Question and Answer Department," and read the paragraph entitled, "First Queen Destroys Other Cells." It is that paragraph which prompts the present editorial on "Observing Hives."

Many people imagine that an observing hive may be made by using glass instead of wood in the side or end walls of an ordinary hive. But a true

observing hive is one in which no part of the brood-chamber is hidden from the owner. The right kind of observing hive—and every beekeeper ought to use one—is made with only one frame with glass on both sides. Such hives are sold by many dealers or they may be made at home very cheaply. During the latter part of this month, in our northern countries, or in early June, is the proper time to supply such a hive with bees. Go to a strong colony and take out one of its center combs with plenty of bees, with or without the queen. By placing it in the observing hive and keeping it about 48 hours in the cellar we will have a little colony which may be set before a window with a tube for the bees to reach the outside. Or it may be put in a corner of the back porch, or in the yard, on a stand sufficiently raised that we may sit by it on a chair and spend hours watching the bees at work. Both sides should be available. We will see the queen lay, and when she is removed we will see the bees rearing queen-cells.

If we wish to rear queens in it, the little colony must be made strong by shaking young bees in front of it. Bees that have never yet taken a flight will remain where put, and we may thus obtain a little colony so strong that it will rear as good queen-cells as the best of our colonies. There is no end to the pleasure and information to be derived from such a hive, and you will entertain not only the members of the family but visitors as well. None of the "mysteries" of queen-rearing will be hidden from you, and you will be able to verify many of the statements made by authorities of the natural history of the honey-bee. Many of the experienced beekeepers have used these observing hives season after season. The cost is small and the pleas-

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ure great. If well cared for and well ed, a colony of this kind may produce two or three queens in a season and more than pay for all the trouble. But to rear good queens in it, we must have it strong in bees.

Even through the neglect of its owner, an observing hive may teach us lessons, if we will only examine the behavior of its bees in all circumstances. A hopelessly queenless hive of this kind will give us the spectacle of drone-laying workers whose existence we have known some really good beekeepers to doubt.

When the summer is ended the bees of the observing hive may be united to any colony in the apiary, unless we wish to try upon it some of the problems of wintering.

## Beekeeping in Canada

Morley Pettit is still doing things across the border, in spite of the war and the bad season of 1914. He reports that the average crop for the province of Ontario "was about 16 pounds per colony as opposed to an average of over 100 pounds per colony in 1913." There were 541 beekeepers engaged in co-operative experiments with instructions and material sent out by Mr. Pettit, and the experimenters reporting on their crops had an average of 35 pounds per colony. The significance of this seems to be that the wide-awake and up-to-date men who are getting twice as much as the general average are the very ones who are eager for light to do better. "To him that hath shall be given."

The experiment for the prevention of natural swarming in the production of extracted honey resulted in reducing swarming to 5 percent instead of 35 percent with an increase of the average yield per colony.

It appeared to be "a great advantage to give the queen an extra brood-chamber of empty combs for a week or two before the opening of clover flow, provided the colony is strong enough to need the extra space." Also "that it pays to give hives extra protection when they are taken out of the cellar early in the spring. The extra warmth so obtained is of great value to them in the early brood-rearing. (It would be interesting to know how early the taking out would have to be to make the extra protection pay.)"

Arthur C. Miller's smoke method of introducing a queen to a full colony proved entirely satisfactory with two-thirds of the experimenters.

To each of 106 applicants an untested Italian queen purchased from some reliable queen-breeder was sent,

the queen to be tested as to her efficiency in struggling against European foul brood. Later reports were received from 36 that the queens had been successfully introduced (presumably into affected colonies), and that the colonies were going into winter quarters in good condition. The report states:

"In all there are 7222 colonies of Italian bees, 5422 crossed Italian and black bees, and the balance, 2846, are principally common black bees. This shows a marked gain in the number of Italian bees kept."

Wonder if Mr. Pettit would make his affidavit that among those 2846 there are 100 sure enough simon-pure blacks. If so, pure stock of that sort is probably easier to find across the line than here.

C. C. M.

## Co-operation

In that article on page 129, Mr. Rauchfuss, acting for the association of which he is secretary, has done a very unselfish thing. He has given away all the secrets of their success, upon reading which one is inclined to say, "And why shouldn't they succeed?" And the question arises, "What is there to hinder others to succeed in the same way?" The plans that have been such a great success in Colorado are not patented, why have they not been adopted elsewhere? It looks as if they might be. To be sure, the personality of the manager is a large factor, and a Frank Rauchfuss is not to be found growing on every tree, but now that the program has been so plainly made out it is to be hoped that the right man may be found in other places, and that we shall hear of the same success being repeated elsewhere.

C. C. M.

## What is Old Comb Worth Per Pound?

That is a very difficult question to answer as it depends upon how much pollen or perhaps honey it contains.

Very old combs cut from the bottom of the brood-chamber might not contain more than 10 percent of beeswax. Usually the honey in them has been taken out by the apiarist or robbed out by the bees. But at times such combs contain a large amount of pollen which is only dead matter when comes the rendering into wax. The upper part of the combs is always richer in beeswax because it is reinforced every year with new wax at the time of the honey harvest. This is readily proven when we see the bees whitening their combs, which is simply adding new wax. In a similar way, the extracting

combs are every season strengthened so that they become tougher and tougher, even though no brood is reared in them. Even the section boxes have their combs reinforced when they are used the second season after a failure to fill them and seal them fully the first year.

The lighter the combs are the greater the percent of pure wax in them; such combs as have been used only one or two seasons, if clean, might contain 90 to 95 percent of beeswax.

Owing to these facts and the irregularity of old combs it is impossible to answer the question of how much old combs are worth per pound, especially as the beeswax which they contain has itself a fluctuating value. However we can say that brood combs of Langstroth size contain from 3 to 5 ounces of wax in ordinary circumstances. When the value of beeswax is known it only remains to figure the expense of extracting it to reach the value of the combs.

The older the combs of the brood-chamber, the more cocoons they contain and the more difficult it is to extract the wax, as more of it will be absorbed by the residues than in new combs or in super combs containing mainly beeswax.

Much of the wax rendered at the beekeeper's home is only partly secured from the slumgum, owing to the lack of proper devices or because too little time is taken. The methods used by some apiarists are so crude that I have often heard old beekeepers say that no wax can be obtained from black combs. This is true when the work is attempted with a solar extractor. We are steadily coming to the European custom of leaving to specialists the rendering of the wax from the combs, with profit to all concerned.

C. P. D.

## Foulbrood Insurance

Dr. E. F. Phillips, of the Bureau of Entomology, and in charge of the Apiary work, who is well-known to our readers, sends us a copy of the Monthly Bulletin of the International Institute of Agriculture, containing a relation of Swiss insurance against foulbrood. We have made mention of this insurance in the "Notes from Abroad" for September last, page 306. The beekeepers of German Switzerland have a voluntary organization for this purpose, and the cost per colony is one cent per annum.

The Swiss Federal Government has declared foulbrood an infectious disease, but it has left to the Cantonal Governments the authority for regula-



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tions and laws concerning it. So each Canton has its own law, just as our States have. In the French Cantons, Fribourg, Vaud, Neuchatel, compulsory foulbrood insurance has been established, but the cost of this has been much greater than in the voluntary organization of German Switzerland, amounting to about 30 centimes or 6 cents per colony annually. This is due to various causes, the main one being very probably that this was established later and that a greater amount of dis-

ease was in existence. Quite a little dissatisfaction has been caused by this.

Whether our own people ever consider it advisable to organize insurances against this disease, we wish to warn them against allowing it to run too long without control. The quicker measures will be taken against foulbrood, the easier it will be to eradicate. Concerted action is necessary. Laws should be passed and enforced in every State. Much has been done already, but much remains to be done.

a honey plant. He considers it one of the best honey plants of the State.

**Bees for Farm Women.**—Report No. 103 of the United States Department of Agriculture, deals with "Social and Labor Needs of Farm Women." Beekeeping is one of the pursuits advised for farm women. A list of Government bulletins on beekeeping available for free distribution is given in connection.

**Crop Conditions.**—Bees here came out of winter very weak, but the prolonged warm spell has had a remarkable effect. Danger of spring dwindling is fast disappearing, under the stimulant of a light honey flow from fruit bloom.

## MISCELLANEOUS NEWS ITEMS

**Watch Out for Robbers.**—Use every precaution and watchfulness to prevent robbing. Do not under any circumstances leave combs of honey out for the bees to clean up. On account of the prevalence of disease in unexpected places, it is never wise to feed honey to bees, and where disease is known to exist it is the worst of folly.—MORLEY PETTIT, Provincial Apiarist, Guelph, Ont.

This is good advice for everybody to follow wherever bees are kept.

**Women Keeping Bees.**—To the young wives of soldier beekeepers who have to do the home work during the absence of their husbands at the front, Mr. Mothré, in "L'Abeille Bourguignonne" (French) gives some very seasonable advice on how to care for

the bees in the husband's absence. Thousands of apiaries, in stricken Europe, must now be cared for by the women, while the men are mowed down in a senseless war.

**Should Be Good Location for Bees.**—During the past year the acreage of alfalfa in Allen Co., Kan., has been raised from 2000 to 5000 acres, and more than 2500 acres to sweet clover has been planted where it was never grown before.—*Exchange.*

**South Dakota.**—The annual report of L. A. Syverud, Bee Inspector of South Dakota, is at hand. After giving a general idea of the work done, Mr. Syverud gives considerable prominence to the value of sweet clover as

**Bees Not a Nuisance.**—We give here-with the salient parts of the report published in 1890, on the above subject, by Thomas G. Newman, then General Manager of the National Beekeepers' Union, mentioned on page 135 of the April number:

"To show the value of united action, and the moral weight of the backing of the National Beekeepers' Union, we will make a brief enumeration of the outcome of all the suits against beekeeping in the United States, which the Union deemed it expedient to defend, and it will be seen that not one has been decided against the bees.

"The 'Freeborn' case in Wisconsin was presented in such a manner, backed by the Union, that the judge threw it out of court.

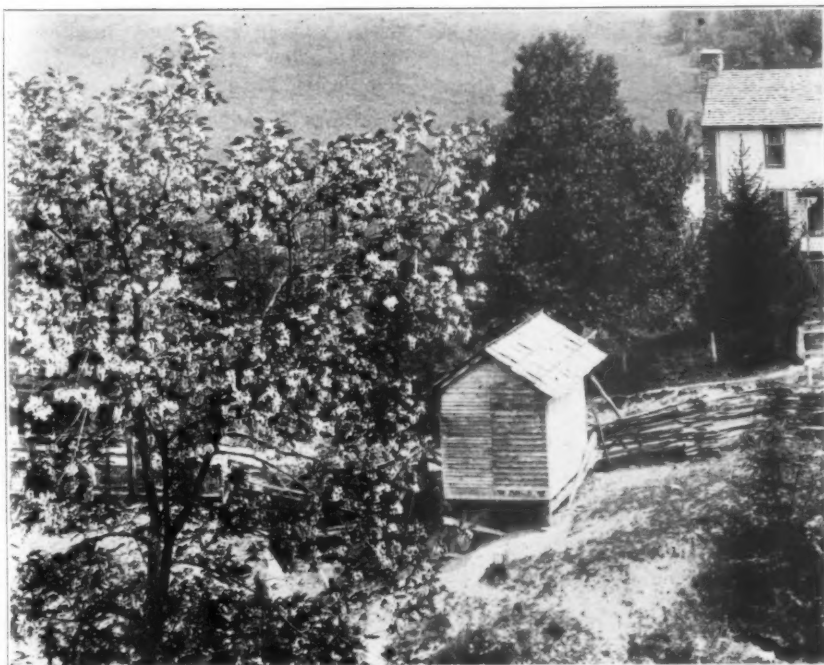
"In the 'Bohn' case, in California, the united resistance of the beekeepers of the National was too much for the fruit-growers, and that trouble is now all conquered, the raisin-growers admitting that they were mistaken.

"The 'Darling' case in Connecticut was dismissed as soon as it was discovered that he was 'backed up' by the National Beekeepers' Union.

"The 'Richardson' case in Indiana was dismissed by the court.

"The case of 'S. W. Rich,' of New York, was a suit by a disagreeable neighbor, to compel the removal of his home apiary outside of the city limits. He also sued for \$1200 as damages for injuries inflicted by the bees upon his person and property. The jury from which every person having bees was excluded, gave him but six cents to cover wounded feelings and damaged property.

"The CROWNING VICTORY was obtained in the Arkadelphia case, in Arkansas. There by the enforcement of an unlawful ordinance of the city, Mr. Clark was deprived of his liberty and the constitutional rights guaranteed to every citizen of the United States. Even granting that it was wrong in Mr. Clark not to obey the city authorities, he should have had a speedy trial by an impartial jury all of which was denied him. Even when released under writ of *habeas corpus*, he was within three hours re-arrested and



HONEY-LOCUST TREE IN FULL BLOOM AT THE HOME OF D. M. BRYANT

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FLOWERS OF THE HONEY LOCUST—(Photograph by D. M. Bryant)

fined. After demanding a change of venue, because of the prejudice of the mayor, that functionary again fined him, denying him his constitutional rights. This case was appealed to the Supreme Court, which decided that the City Ordinance against beekeeping was illegal and void, and that the keeping of bees was NOT A NUISANCE.

"The City Council of Fort Wayne, Ind., passed an ordinance against keeping bees within the city limits. If enforced it would practically wipe out beekeeping there. Such a pressure was brought to bear by the beekeepers, backed by the Union, that no attempt is made to enforce that ordinance.

"The 'McCormick' bill introduced into the Legislature 'intending to wipe apiculture out of Michigan,' as Prof. Cook stated it, raised such a buzzing about his ears that it was tabled on his own motion and there died.

"All the late cases against beekeepers have been killed by reading the decisions of the Supreme Court of Arkansas." THOMAS G. NEWMAN.

While the beekeepers may congratulate themselves upon the results above mentioned which recognize their legal rights, they should also bear in mind the advice of "L'Apicoltore," on page 404, of our December number, "The best way is that of accommodating gentleness, with the observance of reciprocal rights and duties as kind neighbors."

LATER.—We clip the following from the Chicago Herald of April 5:

"P. W. Dunne, of 164 South Forest avenue, River Forest, Ill., father of Gov. Edward F. Dunne, has six hives of bees which have become a nuisance, according to complaints made to the village trustees and police.

"As a result Mr. Dunne has been or-

dered to remedy the nuisance or do away with the bees.

"C. Miske and E. F. Ligare, neighbors, complained that the bees stung their children as well as a number of others during the last few days.

"The scarcity of water, according to Mr. Dunne, is the cause of the trouble. He said the bees, in looking for water, would attack the children. He told his neighbors he was placing pans of water in his yard to divert the attention of the bees from the children."

The children stung were probably trying to drive the bees away from the watering place. If there are other bees in the vicinity, they are as likely to be guilty as those of Mr. Dunne. The remedy proposed to divert the atten-

tion of the bees will be more successful if the complaining neighbors will cover up the water supply for a few days, until the bees learn to go to another spot.

**Error in Pictures.**—In our April issue a mistake was made in headings under the cuts referring to the National meeting in Denver. The cuts on pages 125 and 131 refer to the interior and exterior of the exhibition room at the Auditorium hotel, where the National meeting was held and not to the headquarters of the Colorado Honey Producers' Association.



HOME APIARY OF D. M. BRYANT AT ETHELFELTS, VA.—NOTICE THE ASTERS SURROUNDING THE HIVES



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**Apiary Demonstrations in Ontario for 1915.**—Arrangements are well advanced for the apiary demonstrations to be conducted throughout the province of Ontario this coming summer. The increased attendance of this last year indicates the great interest that is being taken in this line of work. In all 55 demonstrations, with an average attendance of 34, were conducted this past season. The whole apiary and the beekeeper's equipment is placed at the demonstrator's disposal, giving him excellent opportunities to illustrate with the actual objects many of his remarks.

The demonstrator has complete charge of the meeting. Usually he starts by a short talk on foulbrood, then proceeding to the apiary and examining several colonies. If the disease is found a colony is treated. Suggestions are offered on many minor details that present themselves as the hives are being opened. Special attention will be paid to wintering. Models of the four hive wintering case will be supplied the demonstrator. These will form a new factor of the meetings.

Final arrangements are yet to be made, but ample notice will be given later.

**Iowa Field Meet.**—A field meeting of beekeepers will be held at the Heights, McGregor, Iowa, Wednesday, May 19. Miss Mathilda Candler and Mr. Harry Lathrop of Wisconsin, and Mr. C. D. Blaker, State Inspector of Minnesota, will be the speakers. The Heights is a very sightly place overlooking the Mississippi river and near the depot at McGregor. A very pleasant meeting was held there last year, and a larger attendance is expected in 1915. A picnic dinner is planned the same as last year.

FRANK C. PELLETT.

**Many Uses for Honey.**—"Various ways in which the housewife can use honey to advantage are suggested in a new publication of the United States Department of Agriculture—Farmers' Bulletin No. 653, 'Honey and Its Uses in the Home.' In this country honey has hitherto not been in as common use as in Europe, especially in cookery. It is, however, a comparatively simple matter to substitute it in many recipes for common sugar or for molasses, and when this is done the resulting flavor is often both novel and agreeable.

"One of the great advantages in the use of honey is that cakes made with it will keep much longer than those made with sugar. A honey-cake made with butter, for instance, will keep its quality until the butter grows rancid, and one made without butter will keep fresh for months. For this reason honey is especially useful in recipes that call for no butter. Icing made with honey has the same advantage, and some icing made in the experimental laboratory of the Department

of Agriculture, was found at the end of ten months to be as soft and in as good condition as when it was first made.

"The experiments conducted by the Department indicate that many of the instructions in the old cook books for the preparation of honey were unnecessarily elaborate. For example, it used to be thought that honey had to be brought to the boiling point and then skimmed and cooled. Some honey is extremely likely to boil over, this process requires great care. Experiments showed, however, that it appears to be quite unnecessary, and it is quite probable that the notion arose at a time when ordinary commercial honey contained more impurities than at present. Similarly, the older recipes say that the dough should be kept at least one day before the soda is added.

"No evidence to support this theory was found by the investigators. On the other hand, however, they did discover that dough containing honey can be more easily kneaded if allowed to stand for several days. Again, the use of 'potash' is recommended in most of the recipes in foreign cook books as a means of raising the dough. The

properties of potash are quite similar to ordinary baking soda, and there seems no reason why the latter should not do just as well.

"Baking soda is a common kitchen commodity in America, and potassium bicarbonate—the potash of the cookery book is almost unknown for household purposes. As a matter of fact, a little experience will enable any competent cook to substitute honey successfully for sugar in bread, cake, preserved fruits, sauces and candies. It is safe to estimate that a cupful of honey will sweeten a dish about as much as a cupful of sugar, but since honey contains water in addition, there is less need for milk or other liquids. For practical purposes it is accurate enough to consider that for each cupful of honey a quarter of a cupful is added to the recipe. If these facts are kept in mind special honey recipes are unnecessary."

This Bulletin, No. 653, contains a number of recipes. We advise the beekeepers to send for it either through their representatives in Congress or through the Department of Agriculture.

## BEE-KEEPING FOR WOMEN

Conducted by MISS EMMA M. WILSON, Marengo, Ill.

### Taking Off Sections

In the spring of 1914 my husband purchased two bee-hives; they are one and a half story hives including sections and foundation starters. They came in fine shape, and we were well pleased. The bees filled 31 sections last summer. I took them out a few at a time and left vacant places. Now the separators are warped. What shall I do about it? Can I wet separators in warm water and press them straight? These two colonies are strong now. Please advise me what to buy and how to manage to make them fill the most sections this summer? What kind of foundation fastener do you advise for a few colonies?

I put a colony in an 8-frame hive April 27, 1914, and they built the combs crooked. June, 1914, they were working fine, super full, so I cut out 30 pounds of honey and returned empty super and frames at once. They did not work in the super another bit. What was my mistake in this case? I also have a strong colony in an 8-frame hive now, which has nice straight combs in five of the frames in the super, some cells being filled and capped. How shall I manage it? In case you advise me to use full sheets of foundation in frames, what shall I do with little bits of comb?

Bees are bringing in pollen now. I have 19 colonies of nice bees, but a motley collection of hives.

[MRS.] BELLE EVERETT.

Maryville, Tenn.

If your separators are without glue

you cannot only wet them with warm water, but better yet give them a good soaking in hot water or steam them. Leave them in a place where they will dry out quickly, leaving under pressure until thoroughly dry. But glued separators cannot be wet, as they will fall to pieces, so they must depend upon pressure for a long time.

It is a little difficult to say just how many sections you will need, so much depends upon the season and the crop you get, but it is always safe to have ready more sections than you expect to have filled, as there will always be some sections at the end of the season unfinished; still you must have these sections as a safety valve, because you never know just when the flow will cease, and these partly drawn sections are valuable to use as bait sections next season. If you think that in an extra good season you may get 150 finished sections per colony, better have ready about 175 sections per colony. If in a best season you think you will need more or less sections than that you should be guided accordingly. You should always be ready for a big crop, and if there are sections left over until the next season they will be all right to use then.

Never allow the bees to feel crowded for surplus room. When the first super is about half full raise it up and place an empty one under it. When this last is about half filled another may be added under, and so on as fast as needed. It is not a bad plan to add an empty one also on top where it will not be used if not needed.



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Instead of taking out a few sections at a time wait until the super is all finished but the corner sections and take off the whole super; a new super may be made of these unfinished sections and returned to be finished. A hot plate foundation fastener, such as the Daisy, is good. This will cost about a dollar. You can get a Parker fastener for 30 cents, but it is not nearly so good.

When you returned the empty super after cutting out the comb, and the bees did nothing more in it, it was most likely because the honey flow had stopped.

That super with the nice straight combs in five of the frames can be left to the bees to finish out. Fill out the rest of the super with combs or frames filled with foundation. The pieces of combs can be filled into frames, but if small it will be perhaps better to melt them up.

### Cleaning Supers and Separators With Lye

A Michigan correspondent writes: "In Root's A B C of Bee Culture you are quoted as cleaning your supers and separators with lye. We use a fence separator. Do you think it would be wise to clean it with lye, and how much lye would it take for my tank that holds 30 gallons of water?"

"I like to work in our apiaries, and find it both pleasant and healthful. I am eager for the season to open."

It is doubtful that you can clean your fence separators with lye. They are likely to be glued together, and would fall to pieces if put in the lye. Of course if yours are nailed instead of glued that's different; but even then it would be difficult to keep them from warping, as they would have to be put under a weight to keep them straight. Still you might be able to succeed with that part of it. If your separators are nailed, and you wish to try it, just keep putting in lye until your solution is strong enough to remove all propolis.

Of course, they must be well rinsed after taken from the lye.

### A Living from Beekeeping?

"I am a business woman, but expect to have to get out of a business life very soon. As I am dependent entirely upon my own efforts, I must get into something that will bring me in fairly good income, and I would like very much to know what is your opinion of beekeeping for women, from points of the nature of the work and the income therefrom? What is a fair season's profit per hive, and how many hives would you advise one to start with? I must do the work myself, and have no idea of how many hives one person can give proper care to.

"Do you know anything about Minnesota, relative to its being a good place for beekeeping?"

Minneapolis, Minn.

There are many women beekeepers that are making a big success. Almost everything depends upon the woman, just as in any other line of business. Not every man will make a success of beekeeping, neither will every woman. Don't for a minute imagine that suc-

cess in any line of business is achieved without a knowledge of the business, and beekeeping is no exception to the rule.

You cannot jump into a full fledged beekeeper at one bound, but if you are willing to go slow, study hard, and be willing to work hard (for there is lots of hard work connected with beekeeping), there is no reason why you may not make a success of it.

But if you are thinking of giving up all other means of earning a livelihood and depending entirely upon beekeeping from the start for a fairly good income, don't do it, you will be disappointed. Even experienced beekeepers have years of failure owing to conditions over which they have no control when their bees are an expense instead of a profit. At such times one must have a reserve fund to draw on. To overbalance this, there are years when the profits are great.

There are other things beside money to be considered in beekeeping. Health is wealth, and the chance to work in the open air instead of being cooped up in a stuffy office is a matter of no small consideration. In many ways beekeeping is especially adapted to women.

What is a fair season's profit per colony is a pretty hard question to answer, so much depends upon conditions. A colony may yield a crop amounting to \$25 or more while another colony standing beside it may yield nothing. One beekeeper may average in a series of years \$10 per colony, while with others it may taper down to those who are failures.

As a rule it is safer to start with only two or three colonies and increase in numbers as you increase in experience, when you will be able to manage a hundred or more.

Minnesota is a good State for bees.

## CALIFORNIA BEE-KEEPING

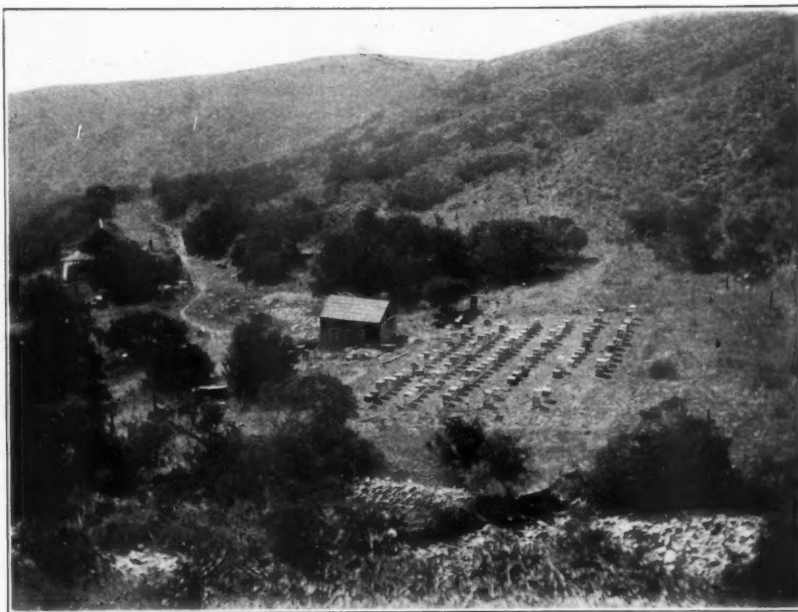
Conducted by J. E. PLEASANTS, Orange, Calif.

### The Golden State Apiaries

We introduce to the readers of the American Bee Journal this month Mr. George J. Brown, of the Golden State Apiaries. Mr. Brown is one of our rising young queen-breeders, and is a success everywhere you find him. He brings live business methods into the management of his apiaries, especially the selling end of the business. That he made a decided success in this line last year in spite of the dull honey market speaks for itself. We believe his hints about vigorous young queens

and well-ripened honey should be well taken by both old and young beekeepers.

"The photograph showing the buildings is my mountain apiary as it appeared on or about the first of May last year. When I bought this place two years ago, there were 130 colonies scattered over about an acre. Through close extracting the previous season, being unfamiliar with the conditions of mountain flora and facing a poor season, it was necessary to feed heavily. But in spite of all this I lost but few



MOUNTAIN APIARY OF MR. BROWN, NEAR THE OLD "MISSION" TOWN OF SAN JUAN CAPISTRANO, CALIF.



ANOTHER VIEW OF BROWN'S MOUNTAIN APIARY

colonies, requeening most that were left. Last spring, after counting all that had bees, including a few nuclei, I had 90 colonies left, mostly with good Italian queens from the previous season. Of course, I could tell then that we would have a fair season. So I arranged to get as much honey as I could with as little increase as possible. By the end of the season I had 125 colonies in excellent condition with at least 1000 pounds of honey in the supers. I took off five extractings amounting to  $9\frac{1}{2}$  tons (19,000 pounds).

"I believe if I had increased according to the Alexander method I would have had considerably more honey and

all empty hives full of bees. This would mean a great deal with our present excellent prospects.

"I am sure that a great many California bee-men make a mistake by not keeping young queens. I find that a vigorous young queen, if well supplied with stores, will have a hive full of bees by the time the sage flow begins, without stimulating. This season I did not stimulate at all and will have to divide some of my colonies now (March 15) to keep them from swarming. I have rearranged this apiary and expect to increase by the Alexander method; also by bringing swarms from the valley until I have from 250 to 300 colonies.

"The other photograph is of my Lemon Heights apiary. Although it is in reach of considerable sage, the principal honey flow is from oranges and lima-beans. It is located at the edge of the San Joaquin ranch, where from 17,000 to 21,000 acres of beans are cul-

tivated annually. The flow from the beans is of short duration. The average yield runs from 30 to 70 pounds to the colony; but mostly a low average, although one season some colonies stored 200 pounds. The orange yield is sometimes a failure, which was the case last spring.

"This apiary is run mostly for bulk comb honey, a large part of which I sell for bottling purposes. The past winter I had a little experience in bottling and selling honey which was very successful. The market being very slow, and not getting a fair offer for my honey, I decided to find out if there was a home market, as I had often been told.

"I got some Schram and Drey pint and quart white flint glass jars and some Kerr white glass jars. All of them were good with the preference for the latter. I cut up bulk comb honey in nice wide strips, long enough to reach clear down in the jar, filled it with a clear light amber honey. This made a very attractive article. I then called upon the grocers in my home and neighboring towns and induced some of them to handle my goods. Some said they could not sell honey, having tried different kinds before. I did not doubt them. Well, I got my honey started, and when I next came around they all wanted more of it. They said that it was the best seller they ever had.

"People are ready to buy if it is put up right. It must be attractive. Some of my customers had in stock nicely packed honey put up by Los Angeles concerns, but in every case this honey was a dead article where mine sold quickly. This was not only because it was more attractively packed, but because it was directly from the beekeeper and guaranteed pure.

"Beekeepers should be encouraged to put up honey in packages to suit their trade. They should look after their own market instead of depending upon some one else and then kicking about low prices.

"And another thing. Do not try to sell nectar; sell honey. Well ripened heavy honey always gives satisfaction.

"Tustin, Calif. GEO. J. BROWN."



GEO. J. BROWN

**CANADIAN**

**BEEDOM~**

Conducted by J. L. BYER, Mt. Joy, Ontario.

### Kind of Weather that Favors Nectar Secretion—Soils Best Suited to Honey Plants

Interesting reading that on page 79 of the March American Bee Journal, relative to the kind of weather that best favors nectar secretion, and the kinds of soil best suited to various honey-plants. As in many other things relating to beekeeping, I expect that our old friend "locality" cuts quite a figure in these matters, as, for instance, where temperatures are mentioned it is given among the answers that from 80 to 100 degrees is best suited for nec-

tar secretion. While the latter figure may mean good honey weather in localities farther south, after 90 degrees is reached here in Ontario, nectar will, as a rule, cease unless we have an abundance of moisture in the soil—a condition we very seldom have.

As to soil best suited for various honey-plants, there are at least two things that we feel fairly sure of. Good strong clay soil is undoubtedly best for clover-honey production, while one acre of buckwheat on sandy soil will yield as much nectar as three or more on clay soil. While not at all sure about the matter, from the experiences



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of others as well as our own, soil seems to make little difference in the case of basswood and other trees that yield nectar.

In the matter of honey-plants listed, some exceptions would be made to the rulings if we tried to fit them into Ontario conditions. For instance, charlock or wild mustard is classed as a pollen yielder only, while here, in some seasons, it is a profuse yielder of nectar. As might be expected, white clover and alsike head the list of honey-plants, and the only thing we might differ in is that in Ontario alsike is the best honey yielder we have, leaving the white variety in the rear in the majority of seasons.

### Difference Between Post-constructed Cells and Ordinary Cells

Dr. Miller deserves a vote of thanks for that able dissertation on the question of the kinds of queen-cells. The description of the various kinds of cells is given in the Doctor's usual concise manner, written in simple language that any one can understand, and the article has no doubt been read with interest by many.

While we have felt fairly sure of being able to distinguish between post-constructed cells and ordinary cells, yet I am often puzzled about deciding between supersedure ones and those of the swarming variety, for as the Doc-

tor intimates, it is often imperative that we decide this question when making examinations of colonies. However, I feel that I have learned quite a lot on the whole question by reading what the Doctor has given us, and thanks are hereby tendered for the same reason.

### With Bees Well Fed in the Fall the Loss is Small

This reminds me that wintering conditions in Ontario are much better than intimated in my notes for April. Wherever bees were well fed and protected the loss is small. Where the opposite was the case, losses are heavy.

Our own losses are confined to two yards, where over a dozen colonies broke cluster early in March and went to pieces with dysentery. Of course, the cause was bad stores that granulated, and the bees were literally starving with combs of solid honey in the hives.

### Bees in Normal Condition Last Fall Wintered Well 100 Miles North of Toronto

Friend Doolittle reports in March American Bee Journal lots of snow and cold in the month of February, but adds that the bees are not harmed

as they are in the cellar. What about the poor bees that were outdoors 200 miles north of Mr. Doolittle's section, and that were no doubt exposed to much colder weather with no chances of a winter flight? I have just returned from the yard of 250 colonies 100 miles north of Toronto, and although these bees had no flight after the last week in October until April 7, yet every colony in a normal condition last fall was alive, and not a spot of dysentery in the yard. They are leather colored Italians and hybrids, with probably 25 colonies almost pure blacks. I have tried the goldens more than once, and did all in my power to winter them, yet for our localities they are absolutely worthless when outdoor wintering is practiced.

At the yard in question, 43 degrees below zero was registered on Christmas day, but it is only fair to add that at that date the hives were well covered with snow. The balance of winter was not as cold as usual, but the long confinement was unusual, and as aster stores were the main food, it is needless to say I was happily surprised to find things as good as they were.

### Caucasians vs. Italians

I wonder if friend Wilder has not let his enthusiasm run away with his judgment when he states, on page 123, that a man can run 600 colonies of Cau-



" LEMON HILL " APIARY OF MR. BROWN ON UPLAND IN THE SANTA ANA VALLEY, IN REACH OF ORANGE ORCHARDS AND BEAN FIELDS



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casians easier than 200 Italians? As I have probably been guilty of doing likewise sometimes, Mr. Wilder will not think I am offensively personal in making this query. I have a few Caucasians and like them very well, but have seen nothing so magical as to warrant such a sweeping claim as he makes.

## First Pollen Noticed on April 8

The first pollen was noticed here in York county on April 8. At the yard just under discussion, it will likely be a week later, as snow was in the bush on the 8th and 9th. What little clover we have here looks well, and a much larger acreage at the north yard is also in good condition.

## Large Hives vs. Small

Mr. J. E. Crane is, I believe, an advocate of hives larger than the standard 8-frame Langstroth, and this being the case he is to be commended for the liberal view given on page 92, when he points out where the small hive may be better than the larger ones.

Personally, I am very much in favor of larger hives than the 8-frame Langstroth, but, like friend Crane, I can see that under certain conditions the small hive may score over the larger one. But for extracted honey production there is only one reason worth considering in my estimation in favor of the smaller hives. This is a question of winter stores. Large hives always have more honey in the brood-nests in the fall while the small hives will be light and the bees will have to be fed. About once in seven or eight years, the honey will not be of the best for wintering, and heavy losses will occur in such colonies. Colonies in the small hives that must of necessity be fed in the fall, will always winter provided other things are normal in matter of queens, etc.

## An Advocate of "Natural Foods"

I hardly think it wise to answer such an able article from such an able writer as that on page 116, directed mainly at your humble servant. One thing I know, Doctor, is this: Bees fed heavily on good sugar syrup here will winter every time. Bees left with natural stores will not winter well every time, and quite frequently heavy losses occur. While we "subpoenaed" only one when mentioning this matter in March American Bee Journal, the majority of the extensive beekeepers in Ontario will stand behind the claims I have made.

I cannot prove that the friend I mention might not have gotten 10 percent more honey if no feeding had been done, yet I am quite sure that he would have gotten a much higher percentage than 10 percent less, if that course had been followed, for at least two winters in the time mentioned have been disastrous when natural stores were in the hive, and in each case the friend mentioned had no loss whatever, and secured a crop when others had little because they had few bees.

After saying all this, I want to as-

sure the Doctor that I am an advocate of "natural foods," and only regret that actual practice seems to demonstrate that our conditions in Ontario seem to demand that feeding be done, especially in a year like last season when little if any honey was gathered. For spring I have no use for sugar syrup. At that time it needs no scientist to prove that honey is better. But it may be that the very factors that make honey better for spring use, by

their very absence in sugar syrup may be all the better for the bees when little brood rearing is going on and the bees are confined for five months with no flight.

If it was a matter of sentiment alone I would not feed any sugar at all, if possible to avoid it, but as it resolves itself into a question of dollars and cents to feed the "kiddies," we shall continue the practice no matter how much we may dislike doing so.

## FAR WESTERN BEE-KEEPING

Conducted by WESLEY FOSTER, Boulder, Colo.

### An Apiarist's Clearing House

It has been noticed for some time that beekeepers have considerable trouble in securing competent help for the apiary. Those who have advertised for help find it necessary where help is offered from a distance, to require information on the following points: height, weight, age, experience, habits, wages desired, etc.

If a sort of civil service school in beekeeping could be established so that applicants for positions could be given a thorough examination, and then if found competent granted a certificate, it would make it easier for beekeepers to get competent help.

An examination for apicultural assistants should be given, also one for managing beekeepers. It might be well for the National Beekeepers' Association to prepare to give such examinations, charging a small fee to cover expenses, and when an applicant for the examination had passed he would be given a certificate from the National Beekeepers' Association examining board. Such a certificate would be valued by the holder, and the best kind of a recommendation to the beekeeper needing assistance.

If the plan worked, examinations could be given for bee inspectors, queen breeders and agricultural college instructors in beekeeping. A certificate showing efficiency in these lines would be valuable to all concerned. Certificates of proficiency are granted in Great Britain, and it would be well if we could do something of the kind here.

### Packing Bees Too Snugly

An example of too close and snug packing of bees for wintering has come to my attention. One or more thicknesses of burlap or canvas was laid over the top-bars, then a honey-board was pressed down on top of these quilts and a metal roofed cover put on over all. The entrances were contracted to about  $\frac{3}{8}$  by 2 inches. The corners of the hives and combs were all damp and wet, and some of the top-bars were moldy. These colonies were in nearly all cases weaker in bees and had less brood than colonies with full entrances and covers equipped

with inner covers that give a chance for moisture to evaporate.

Bees winter best in the mild districts of the Rocky Mountain region, where ample upward ventilation is given. Bees suffer more from dampness than from cold. It is a mistake to tuck bees up too snugly for winter.

### Honey Publicity

There is little doubt but that the use of honey is going to be greatly extended. The low price will be more effective than the publicity given by the beekeepers. Competition is very keen at the present time, as any one can find out by going on the road and selling honey to the grocers.

We could extend the use of honey by putting up "cooking honey" so labeled, in pails, and selling it for about the price of sugar. At the present time it would be possible to buy a good grade of cooking honey by the carload and sell it out at a good profit at the same price as sugar.

One of the defects to be remedied before we attempt advertising on a national scale is to have honey advertising on all our honey shipping-cases, cans, sections, cartons, etc. There is much good white space wasted that could add to honey publicity.

The use of cartons for section honey will grow, and every carton should be attractively labeled and should show the surface of part of the comb. Beekeepers can greatly improve the appearance of their honey labels, and if we could have a National board of censorship to forbid the use of some of the crude labels put on perfectly good honey, the trade would be benefited.

### Leasing Bees

The terms upon which bees are leased in the West vary. A share of half and half is probably the most common method, in which case the owner furnishes all equipment except horse and wagon (or automobile) and shop. There are some cases where owner furnishes the shop, although the renter usually does this. Location, rents and taxes are generally paid by owner. The hives are kept painted by the

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renter, and the owner furnishes the paint.

If losses from the original number of colonies are suffered the renter should not stand this unless it is caused by his negligence or carelessness. Suppose that the renter through inexperience or carelessness allows foulbrood to gain a foothold, and a lot of the combs have to be melted up and the number of the colonies of the bees is depleted, should the renter have half of the wax from those combs? There

are cases where disagreement may occur unless all such points are mentioned in the contract.

If the renter of the bees is competent he deserves a larger share than one-half the surplus. In parts of the West the renter, if competent and trustworthy, can secure for the owner good interest on the investment and have two-thirds of the surplus for himself. In this case, of course, the renter should furnish two-thirds of the supplies.

## BEE-KEEPING



## IN DIXIE~

Conducted by J. J. WILDER, Cordele, Ga.

### Late Season

This is one of the most backward seasons we have ever had, with almost steady cold weather up to the time when we might expect almost settled weather. These warm spells were very short; just long enough to cause the first honey plants to bud and bloom (such as huckleberry and titi), and as a result much of the bloom was killed by the heavy freeze which followed. This shortened the flow considerably, and, too, bees were kept from the field. Honey plants were nearly half done blooming by the time the bees could reach them. Nevertheless the honey flow has been as good as we ever saw it at this time of the year, and reports show that this is general throughout the South. As our best honey plants usually bloom when we may expect settled warm weather, they will be much later than usual, and prospects are good for at least an average crop of honey.

As a rule, bees had run short of

stores too soon, and there was much loss in brood-rearing and loss of colonies during the latter part of the cold weather, which would not have been the case had there been a few warm days.

### Comb or Extracted Honey—Which?

"As I have not had any experience with bees, I thought I had better start with two colonies, one for comb honey and the other for extracted; or would it be advisable to have both hives for the same kind of honey? Which would be best? What size of hive should I use?"

"Would it be a good idea for me to get a glass hive so I could watch the bees? Where could I get two colonies of Italian bees, and what should they cost me? What should my outfit consist of as a starter?" R. P. COTTER, Barnesville, Ga.

It is best for the beginner to start by producing chunk honey, using the regular shallow extracting super and

frames for storing, and not less than two supers to each colony. This is the simplest and easiest way to produce honey, and, of course, best for those less enlightened in bee culture. You could hardly be successful producing comb honey in 1-pound sections in your locality, and with such an arrangement as I suggest there would be no change necessary to run for extracted honey later, as the same size of super and frames would be best.

In Dixie, where we have no disease to fight or winter problems to solve, it does not matter whether a beginner starts with 2 or 20 colonies. I rather favor a larger number where a beginner desires a good start. Eight-frame hives and supers would be better in your locality than the 10-frame size.

Yes, it would be a splendid idea to get an observation hive and keep it in a convenient place where you can watch the working force of the colony as you study the bee publications and get experience in handling them. It will also aid you in the study of the pasturage of your country, which you must know. I always used a 1-frame glass hive, as it would admit of a more open and convenient inspection, and I always kept it as strong as possible.

It is always more economical to get bees close to home. As a rule they can be obtained cheaper, and there are no transportation charges. Bees in box hives can be purchased at \$1.00 to \$1.50 per hive. In modern hives from \$3.50 to \$5.00, and good queens can be obtained at \$1.25. You should have at least one book on bee-culture, and should subscribe for a bee-paper. A bee-veil, a smoker, hive tool, aside from hives, etc., are necessary.

### The Grey Caucasian Bee

This variety of the Caucasian bee seems to be in the lead in point of quality, both in this country and their own. Their color is against them, as it is so much like that of our native or German bee. With only a few bees in a cage with the queen, the purchaser who is not familiar with them, concludes that the breeder has sent him a queen of the common dark bees, and to some degree he feels like he has been wronged by him. This is natural. One of the most attractive things about the Italian bees is their beautiful yellow color, and in the better bees we have learned to look for it. In this particular the Caucasian bee brings disappointment; but of late the "yellow" stock is condemned all over our country, and we are now looking more for quality and less for appearance. So we cannot fall out much with them on account of their dark color, if they have the quality.

After handling this bee for a number of seasons, I can truthfully say that I prefer their deep steel color to the bright yellow color of the Italians, because the color is more even throughout the apiary except in the case of the older bees crawling about on the comb which have a very dark glossy color, the hairy coating of the abdomen having left them, and at times thousands of these old slick black bees appear which represent the oldest of the field-



SAN REMO. (Taken by Mr. Capponi.)



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ers, and which have spent a long and useful life.

These old bees hold their wings in an uplifted manner, and they go and come almost like shot in the air or at a wonderful swiftness. These bees appear but little among the German bees, and by this and their much deeper grey color on the comb, as they are handled we may know them. The gentleness and behavior while handling, the prolificness of the queens and the vim of the bees will also tell the tale. The grey propolis will appear about the entrance of the hive at the close of the honey flows.

From time to time there has been much said through our Dixie Department about the good qualities of the Caucasian bees, as they have been given a trial by progressive beekeepers in different sections of our country. If there is one beekeeper who has tried them and has not reaped good results he has failed to report. It may be true that we have had too much to say about these bees. "A good thing cannot be told too often," but we have

done it conscientiously with nothing in view except the general promotion of our industry.

The more experience the writer has with these bees the more they come into favor. The general spring apiary work among all our bees reveals the fact on every hand that our Caucasian stock is all that we can depend upon for good results this season. Their hives are full of bees, and they are right in the harvest with the greatest force we ever saw, and honey is appearing in the hives as fast as we ever saw it. Our best Italian stock is far behind in breeding, and the first flow in the spring will be over before they are ready for it, and at one or two branches of our business, where we have the Italians installed, we cannot hope for a half crop of honey. One apiarist who has charge of some 450 or 500 colonies, writes us, "No more Italians for me, and nothing but Caucasians will do."

It will only be a very short while before every colony in our yards will be headed with a Caucasian queen.

enough to be snow covered in summer and their highest peaks are as barren as our Arizona cliffs. The hills along the streams in the part crossed by us were covered with olive trees. The grapevines of course are to be found everywhere. Villages, castles, monasteries, convents are built on the crest of the hills. They are all very old, grey and dilapidated. They were built there for self protection centuries ago. The houses are huddled together with

### NOTES FROM ABROAD

BY C. P. DADANT.

From Ancona to Rome, the railroad line crosses the Apennines, those famous mountains which were for centuries the refuge of the Italian brigands. But brigandage has disappeared since the unification of Italy, in the last half of the past century. To find brigands, one has to come to America, where bold robbers occasionally ply their vocation in some of

the finest railroad coaches of the entire world. The Italian railroad coaches are not so comfortable as our own, and we had followed the advice given us to travel only in first class. But one is safe in them, and the Italian railroad officials are as polite and accommodating as ours, at least.

The Apennine mountains have nothing attractive. They are not high



ENGINEER CAPPONI, OF SAN REMO

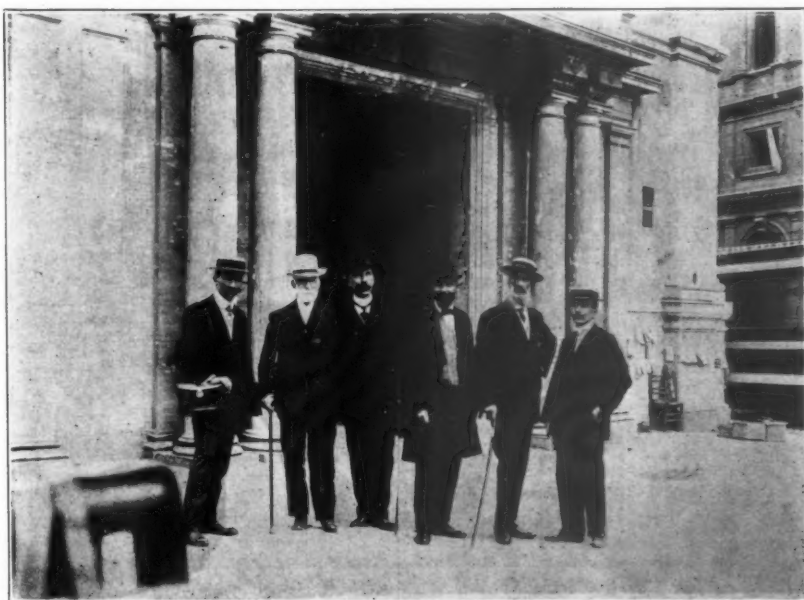
just passageway between them. As the meager grain and hay crops are grown in the valleys, everything has to be hauled to the hilltops for use.

However, one must not think that every spot among the hills between Ancona and Rome is to be thus described. There are beautiful regions. The apiary of Mr. Degenève, of Salmata, in Perugia, is in one of those fine spots, and we reproduce it in this number.

Rome, the Eternal City, is a mixture of the magnificent *New* and the ruins of the great *Past*. It is out of the compass of my letters to tell of its monuments, its immense ruins, its museums, its 380 churches, its marble palaces, its catacombs. The foreigner who wishes to become acquainted with Rome must stay there a month at least. A year would hardly be sufficient to see all its wonders. We remained but three days. We left it with a deep impression of its greatness, its vastness, and its beauty.

We did not meet any beekeepers, although some were anxious to meet us. We received afterwards a very lengthy and complimentary telegram, which had been sent to Ancona, the very day upon which we left the city, from a noted Roman apiarist, Signor Montagano, inviting us to call upon him. We regretted very much not having received it in time.

Signor Montagano is the author of several modern works on bee culture, of late date, 1911 to 1914, and a contributor to the Italian bee-papers. One of these works, "La Mezzadria



SOME OF ITALY'S LEADING APIARISTS BEFORE THE DOORS OF THE  
MINISTER OF AGRICULTURE AT ROME  
Cotini, Triaca, Bovelacci, Capponi, Visconti, Asprea.



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Apistica," is the only book I know of that treats especially of the renting of an apiary on shares.

The only bees we saw were in a few dilapidated skeps, baskets, boxes and kegs, at the house of a *contadino*, in the Roman Campagna, as we rode through it after a trip upon the famous Appian Way (via Appia). We had visited the catacombs of St. Calixte, where, for one franc each, we had been supplied with a small candle and had followed a young monk some 50 feet under ground, among tortuous passages, where we met four or five parties of tourists, mainly Americans.

The *contadini* homes, in the Roman Campagna, are ruined houses, with very small windows and sometimes big arches for doors. They live among the remnants of the past. In the outskirts almost every third house is a tavern, where they sell "vino e birra." This was Sunday, and the roadside inns were swarming with people seated at tables along the dusty road or on a piazza on the flat roof, drinking, laughing, singing, served by barmaids.

Lots of good looking young people, but lots of dirt, poverty and rags. The Roman Campagna has not been misrepresented.

On Sept. 16, we reached Florence. There a number of beekeepers had been notified of our intended arrival and were expecting us. But through a misunderstanding on my part we went to the wrong hotel. So they waited for us in vain, while we were in the city. As a result we simply saw sights for two days and went on. Florence is beautiful. But of what use would it be for us to attempt a description when so many able writers have already done it better than we could?

Palaces and statues, frescoes and paintings; the nude, more or less everywhere, not only here, but in all Italy, even in the Vatican at Rome, where the succeeding popes have gathered together and carefully marked, with their names, every valuable sculpture. This strikes our American prudery as extremely incongruous. But it is a matter of custom and not of morality or religion.

Away we went, down the Arno, towards Genoa. Passing through Pisa, we thought to have missed seeing the Leaning Tower, but it loomed before our eyes just as the train pulled out.

At Pietra Santa, we saw endless carloads of white marble. Looking up our guide book, we found ourselves in the vicinity of Carrara, the source of the renowned Italian marbles. Mountains as white, almost, as snow, showed on our right. Carrara ships about a million tons of marble every year throughout the world. Its 700 quarries occupy some 6500 men.

We were now traveling along the shore of the Mediterranean sea, with hundreds of tunnels along the way, for the bluffs are very abrupt. Everywhere are villas, hotels, pink-colored houses, village streets which we saw in a flash as we rushed out of one tunnel into another. It was very beautiful but very tiresome. We reached Genoa in the evening, but only remained over night. We had promised to be in San Remo the following day.

We reached San Remo on the morning of the 19th. At the hotel, when we

enquired as to the address of Engineer Capponi, whom we expected to visit, the manager laughed and said: "You need not hunt him, he called here yesterday and twice this morning asking for you. He will be here again before long." Indeed, we had hardly taken possession of our room when we received a note informing us that Signor Capponi would call for us with a carriage promptly after lunch.

Mr. Capponi, an architectural engineer, is one of the leading men of the Italian association of beekeepers. He keeps his bees in the mountain, back of San Remo. He took great pride in showing us around, and when we thanked him he replied: "Do not thank me, I am only doing my duty as our members understand it, and it is a great pleasure to welcome you."

San Remo is a small city of 17,000 inhabitants, and mainly a winter resort. It was dead, at the time of our visit, only five of its numerous hotels being open in the summer or fall. Aside from the olive trees still prominent here, the vicinity grows winter flowers, roses, carnations, etc., for shipment to cold countries. Hundreds of acres are devoted to this purpose, and I was told that entire carloads of roses were shipped to the capitals of northern countries, in the middle of winter. Being along what is called the "Riviera," on the south side of the mountain range, its bees are of a mixed race, hybrids, or at least dark and rather cross, as a rule. This is the part of Italy which is called Liguria. So the name formerly used to denominate pure Italian bees, "Ligurians" is a misnomer. I should like to have been



A STREET IN OLD SAN REMO

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able to find the exact limit where the change to the pure race of 3-banded bees is found. Certain it is that we saw only regularly banded, quiet Italian bees, all through central Italy, while along the Riviera they are darker.

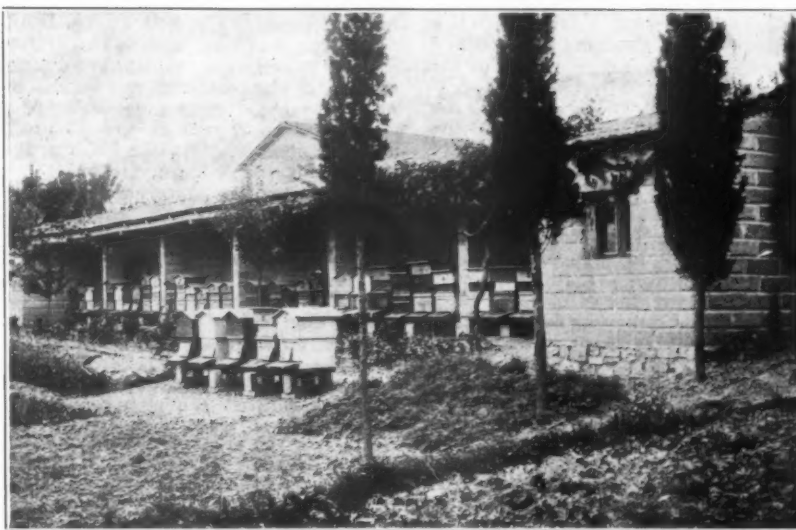
The honey harvested in these mountains, according to the experience of Mr. Capponi, is mainly from the blossoms of lavender (*Lavandula officinalis*) which grows there wild. Its honey is very thick and quite difficult to extract. The nectar contains very little water when harvested. In this it resembles heather honey.

Mr. Capponi had never seen bee diseases of any kind, but said that the bees there were very much annoyed by the death's-head moths, which abound along the coast.

San Remo has suffered at different dates from earthquakes. As a result they have braced the houses, in the old part, against each other across the streets. Mr. Capponi took a snapshot of us in one of these old streets. But the new parts of the city, the villas of the wealthy tourists are beautiful. We had a chance to admire a few which had been designed by our host, and upon which money had been lavished evidently without counting.

On the morning of the 20th, we took a definite leave of Italy and its apiarists, with much regret, for nowhere had we met a more hearty reception. France was again before us.

At Vintimille, the grotesque ceremony of custom-house examination had to be endured, the French officials overhauling our baggage at one end of the big hall, while just across a desk the Italian officials were doing the same thing to the baggage of the eastward-bound public. When will the human race quit putting artificial barriers to its own traffic? A hundred years ago, they had such barriers between all cities and the neighboring country. Even now the "octroi" or city-toll flourishes in a great many places, and



APIARY OF FREDERIC DEGENEVE AT SALMATA, ITALY

there are conservative persons who believe it necessary.

"Pour qu'au loin il abreuve  
Le pâtre et l'habitant  
\* Le bon Dieu crée un fleuve,  
Ils en font un étang."

(\*The Lord makes a river,  
They change it to a pond.)

Had the Southern Confederacy succeeded in seceding from the United States during the Civil War, the Mississippi river would now be cut in two by custom house lines. The big river would be changed into a pond and many people would think that quite correct.

Here also was the change from the hour of Central Europe to that of Occidental Europe. We turned our watches back an hour; a very evident proof that we were going towards home.

Cincinnati and Cleveland conventions N. C. Mitchell, of Indianapolis, Ind., was made treasurer of the Indianapolis, Cincinnati and Cleveland conventions. Father Langstroth was elected president of the Cincinnati and M. Quinby of the Cleveland convention.

## EARLY EVENTS OF AMERICAN BEEKEEPING.

I was born Dec. 2, 1838, near Middleport, N. Y., and lived there until the spring of 1861. I began to keep bees in 1848. In the fall of 1857 I visited Mr. Quinby and his apiary, and I saw there for the first time the Langstroth hive. Mr. Quinby, at that date, had nearly 100 Langstroth hives in use in his apiary, and he was so well pleased with them that he advised me to adopt the hive in my apiary the following year. I followed his advice, but not until after I received a visit in the spring of 1858 from R. C. Otis, of Kenosha, Wis., the man who purchased the patent of Father Langstroth, and who did more as a pioneer in introducing the movable frames among the beekeepers of the United States, prior to 1870, than any living man.

I first met Father Langstroth in the spring of 1860, at Flushing, Long Island, at the home of S. B. Parsons, the person who first imported the Italian bees direct from Italy. I was at the time attending the State Normal School at Albany, N. Y. Father Langstroth sent me an invitation to visit him at the Parsons apiary and see the Italian bees Mr. Parsons had imported for himself. I complied soon thereafter, and on the day of my arrival Father Langstroth and I had the pleasure of seeing the first Italian queen emerge from her cell. While there I also saw the only three Italian queens that were then alive from that first importation direct from Italy. Mr. Parsons bought a number of Italian colonies in Italy for himself, but lost the most of them on their way by water to New York city. Owing to this heavy loss the three queens I saw, as stated, represented an outlay by Mr. Parsons of about \$900.

## FACTS IN REGARD TO THE LANGSTROTH HIVE.

The movable-frame hive was pat-

## CONTRIBUTED ARTICLES~

### A Little History Concerning the National

ONLY two men are now living who attended the first National Convention of Beekeepers Dec. 21 and 22, 1870, at Indianapolis, Ind. This convention organized under the name of "North American Beekeepers' Association." The two now remaining members are M. M. Baldridge, of St. Charles, Ill., and Dr. G. Bohrer, of Chase, Kan. Mr. Baldridge was elected secretary of that association.

Rev. H. A. King, who was then using and selling a hive that was infringing upon the Langstroth patent, sent a call for another meeting for Feb. 8 and 9 following. At this meeting Dr. Bohrer

was also present. He is, we think, the only man living who attended both of these original conventions. The name given to this second association was "American Beekeepers' Association." It met at Cincinnati. As far as we know, only one other man is living who attended this. It is A. I. Root, of Medina, Ohio.

The two associations were merged into one at a consolidation convention, in Cleveland, Dec. 6, 7, and 8, 1871.

Concerning these interesting matters, Mr. Baldridge writes us:

The Cincinnati convention was held on Feb. 8 and 9, 1871. I did not attend that convention nor the consolidated convention held in Cleveland Dec. 6, 7, and 8, 1871. Rev. H. A. King, of New York, was elected secretary of both the



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ented Oct. 5, 1852, by the Rev. L. L. Langstroth. In 1856, Roswell C. Otis, who lived near Kenosha, Wis., being interested in bees, and an official of the Wisconsin State Fair, offered a premium of \$10 to any one exhibiting the best bee-hive during the State Fair for that year. Some one, whose name and address I have forgotten, brought a Langstroth hive, and it was awarded said premium. A short time thereafter Mr. Otis made Mr. Langstroth a special visit regarding his invention, and negotiated with him for the purchase of his patent for the United States, Mr. Langstroth reserving for himself a small amount of territory.

At first Mr. Langstroth did not wish to sell all the territory to Mr. Otis, as P. J. Mahan, of Philadelphia, had been acting as an agent for Mr. Langstroth, and had been negotiating for more or less territory in the southern States. This matter was finally adjusted between Mr. Langstroth and Mr. Otis by the latter agreeing to visit Mr. Mahan and sell him the territory he might desire. This was done soon thereafter. Mr. Otis sold to Mr. Mahan all, or nearly all, of the southern States, and secured from him his promissory note, endorsed by a wealthy man as security, and made payable at a specified bank in Philadelphia at maturity.

Mr. Otis then returned to the home of Mr. Langstroth to exchange the Mahan note for the note or notes he had given to Mr. Langstroth. The exchange was made, and in due time Mr. Langstroth sent the Mahan note to the specified bank for his money, but Mr. Langstroth neglected to notify said bank to protest the note in case it was not paid when due. The bank did not protest the note and this released the indorser, who was a relative of Mahan. The outcome was that the Mahan note was not collectable, and Mr. Langstroth lost the money.

The facts as enumerated above were detailed to me personally by both Mr. Otis and Mr. Langstroth, as many beekeepers since that transaction had accused Mr. Otis of having robbed Mr. Langstroth of his patent, or out of the purchase price. This was why Father Langstroth was a poor man financially or in very limited circumstances. No one in the United States had perhaps a better opportunity to know what the facts were than myself.

St. Charles, Ill.

## The Value of Testing Queens

BY C. E. BARTHOLOMEW.

**T**HE methods as practiced by queen-breeders of testing the purity of the mating of Italian queens by the markings of their offspring is no proof of the purity of the mating.

The report on the results of a series of experiments, covering the past four years, under the direction of Prof. Wilmon Newell, of the Texas Experiment Station, has definitely proven this point. (For this article see "Science" for Feb. 5, 1915.) These experiments were carried out on the crossing of the Carniolans and Italians, and Prof. Newell's results demonstrate that when an Italian queen is mated to a Carniolan drone the resulting workers

are apparently Italian, and when a Carniolan queen is mated to an Italian drone the workers are again Italian. This is exactly the result that we might expect, if the bands of the Italian bee are a dominant character, under Mendel's law. In regard to the Carniolan and Italian cross this has been proven by Prof. Newell's experiments.

The writer the past year has carried on some experiments in the crossing of black queens to the Italian drones, and in each case the black queens so mated gave offspring that were the typical 3-banded workers of the Italians. The latter part of the season was so poor here that experiments started could not be completed, and the crossing of black drones and Italian queens has not been tested, but in the writer's mind there is not the least doubt that the result will be the same.

In the face of these facts, what is the value of the present methods of queen testing for the purity of the mating?

As a result of these experiments, however, there has been discovered a test that will be of great value to the queen-breeder, for by it he may be certain of the purity of the matings of his breeding queens. A mismated queen will always give pure drones of her own race, due to the development of drones from parthenogenetic eggs, but a daughter queen of such a mismated queen will give drones of each race. As a test of the purity of the mating of a breeding queen, the daughter queens must be the ones used. If the daughter queens, of a queen chosen for breeding purposes, give drone offspring of a race other than the race for which the purity is tested, such a queen has been mismated, and should be discarded for breeding purposes. The mismating of the daughter would have no effect upon the above rule. But in judging the races of drones the breeder must depend upon other characters than color alone.

Another fact is that pure Italian queens mated to pure Italian drones will give as offspring varied banded workers. I have one queen now that during the early summer of last year gave all her workers of the typical 3-banded bees, late in the summer and fall the workers were 2 and 1 banded, and some of them had to be examined closely to identify any color at all, and now again this same queen which is laying is giving the typical three-banded bees again. (I have been rearing these bees indoors in the greenhouse this winter.) The causes of such variations must be solved by future experiments. No doubt due to this type of variations many purely mated queens have been discarded, but such queens should not be used as breeders while they may be excellent honey producers.

Iowa State College, March, 1915.

## Glucose and Karo

BY A. F. BONNEY.

**D**EAR SIR:—Having read your article in the American Bee Journal on advertising and karo, I think an advertisement appearing in our local paper will interest you. The first advertisement appeared Dec. 28, 1914,

others to appear each Thursday. As the public was invited to ask questions, I asked the following about karo:

What is the percentage of glucose in karo?

What is glucose?

Is glucose healthful?

How does the food value of karo compare with pure bees' extracted honey?

As my family uses about 8 gallons of extracted honey per year, would it be profitable and healthful to use karo instead?

My questions have not been answered. There seems to be a hole in the sauce-pan somewhere. Perhaps you can suggest something which will help advertise honey, if this form of advertising is to be used through the country.

GEORGE E. MORRIS.

South Barre, Vt.

Replying to your questions: I think you will find the proportions of cane sugar and glucose on the karo cans. We do here. I think it is about 10 percent cane sugar, just enough to make it sweet. Glucose alone is a tasteless mess.

Pure or natural, "glucose" is, chemically, a sugar with the formula of  $C_6H_{12}O_6$ . That is, 6 molecules of carbon, 12 of hydrogen, and 6 of oxygen. Cane sugar has a formula of  $C_{12}H_{22}O_{11}$ . However, the "glucose" you allude to is the artificial, which is made by treating starch with weak sulphuric acid and subsequently purifying it as much as possible with lime, to remove any free acid there may be in the mess.

Is this glucose healthful? I do not think it is. In digestion the sulphuric acid must be liberated, and I cannot imagine that the constant digestion of even a minute quantity of the acid can do any one any good. In the case of children it might do great harm.

How does the karo compare with pure extracted honey as a food? Well, honey is solid food, and predigested at that; that is, being a pure glucose, it is entirely absorbed. There is no poison left behind to irritate. Pure karo (artificial glucose) has no food value if we leave out the cane sugar which is put in to make it usable.

You ask: "Would it be profitable and healthful to use karo instead of honey on my table?" No.

Buck Grove, Iowa.

## Displays and Retailing Honey

BY S. H. BURTON.

**A**T a recent apple show I was on the program to give an address and demonstration on "Beekeeping for the Orchardist." We exhibited hives, frames, supers, and other paraphernalia in the flat, showing the manner of putting them together and other subjects relating to amateur beekeeping. With this exhibit we also showed the finished product in section honey and in shallow extracting frames. An especial interest was shown in the shallow extracting frames with their smooth sides of solid honey built clear out to the end and bottom bars.

Many remarked that they had never seen honey exhibited in this form, and these frames, holding  $2\frac{1}{2}$  pounds net of honey, met with a ready sale at 50 cents



per frame, while I had to sell the section honey at a big discount rather than take it back home. This proved conclusively to me that the public is willing to buy and eat more honey if it is put before them in a different form than that of the conventional section box.

A buyer stepped up to the booth and asked: "How do you sell your honey?" Fifty cents per frame. "Why, that's cheap. Got any more?" while I heard a lady remark, "I know that isn't 'manufactured.'"

Eating honey at 20 or 25 cents per section is a luxury and a seeming extravagance, from the consumers' standpoint, and it only appears on the table at rare intervals.

For the comb honey producer nothing would be better than to market the honey in the shallow extracting frame. It makes a beautiful appearance when packed in the glass front shipping case, and is sure to attract attention. Each frame should be wrapped in oiled paper and neatly tied. A shipping case of slightly larger dimensions than one holding 24 sections is required. Honey packed in this manner will stand transportation better than in sections, for it is more firmly attached to the sides. Offered to the consumer in this form, the frames holding 3 pounds net and retailing for 60 cents per frame, will sell almost as readily as a section at 25 cents, and the consumption is trebled. The customer is buying his honey at 20 cents per pound instead of 25 cents per section holding 12 ounces. On our farm bill board is a sign reading: "Bulk comb honey 15 cents per pound." This honey is cut out of the shallow extracting frame and delivered to the customer in half gallon paper oyster or ice cream buckets, which makes a neat, cheap, and convenient package. This meets with a ready sale, and our list of customers is constantly increasing.

The great trouble with the retail honey market is that honey is offered for more than it is usually worth. I have taken the time to enquire the retail price of honey in a great many towns and cities, and I find it usually offered at 22 to 25 cents per section, regardless of the number of ounces in the section. However, I met a grocer at Seymour, Ind., who is a gem from the honey producers' standpoint. He wished to sell more honey, and in order to do this he talked honey and exhibited honey. Ten glass front cases were stacked in his show window, and a neat display on the inside. I find, said he, "that I can double my sales on honey by offering it at 20 cents per section, or two for 35 cents, rather than hold out for 20 cents per section straight, and with a little salesmanship the customer takes two sections instead of one. My profit on the individual sale is smaller, but I sell more of it, which more than counterbalances the difference."

Here, my fellow beekeepers, is the key which unlocks the door to a greater demand for honey. We must get the retail price lower, not that the retailer is not entitled to a legitimate profit, but a profit of 25 or 30 percent on a single section is more than the business justifies. "Smaller profits and more sales" is what we must ham-

mer into the retail if we would have the public "eat more honey."  
Washington, Ind.

## No. 5.—The Honey-Producing Plants

BY FRANK C. PELLETT.  
(Photographs by the author.)

IN the June number we expect to take up the sources of early spring nectar and pollen, and in the midsummer issues will consider the sources of the principal honey flows on the northern United States and of Canada. It will be some months, probably, before we return again to the minor plants blooming in late summer and fall.

### BUTTON BUSH.

The button bush, also called button willow (*Cephalanthus occidentalis*), is a bushy shrub growing in marshy places, stagnant shallow water, and along streams, from New England to Texas and west to California. This shrub, or in places a small tree, has a very wide range and is found in most of the States where honey production is important. Bulletin No. 102, of the Texas Agricultural College, reports it as common throughout Texas, and the bulletin relating to honey plants of California (217 Experiment Station), records it as a good honey plant in California. It is listed in the catalog of plants of nearly every State and of Canada, which the author has consulted. It is also said to occur in Asia and possibly Africa.

Our readers then who live in the vicinity of wet lands are likely to find specimens near at hand. In a few sections it is sufficiently abundant to be an important addition to the midsum-

mer flora. It is reported as more particularly valuable in the overflowed lands along the Mississippi river. The bees seek it eagerly when in bloom, and in places where it is plentiful it is regarded as of considerable value as a honey plant.

The honey is light in color and mild in flavor according to published reports. Fig. 22 shows the shrub as it appears in bloom, and Fig. 23 shows a near view of the flowers which are crowded together in dense heads giving them the appearance of round cotton balls.

The shrub is very bushy with an abundant foliage. It is reported as reaching a height of 40 feet in California. In Alabama it is recorded as a shrub of from 6 to 15 feet in height which is more like its appearance in Iowa according to the author's observation. Here it is rather a small bush not much higher than a man's head, and as far across, with many branches from the ground.

The blooming period is July and August, according to locality, a season when additions to the honey-producing flora are most welcome.

### ROCKY MOUNTAIN BEE PLANT.

The Rocky Mountain bee plant, *Cleome serrulata*, also known as stinking clover, is principally confined in its distribution to the plains region west of the Missouri river. It is also reported from north Pacific Coast States. While it is a dry land plant, it is occasionally reported from Illinois, Iowa and Minnesota. Although it is occasionally seen elsewhere, the author has not seen it in Iowa excepting on the Missouri river bluffs where it is plentiful in some localities. This plant is reported as especially valuable in Colorado, where it is said to produce



FIG. 22.—BUTTON BUSH IN BLOOM

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considerable quantities of honey.

It is an annual with large, showy, pink or purple flowers. At one time there was much interest in this plant on the part of eastern beekeepers who tried to introduce it by sowing seed. At the Michigan Agricultural College a small field was planted to ascertain whether it could be grown profitably for honey alone. As no plant has as yet proven to be sufficiently valuable to justify its cultivation for this purpose exclusively, it is not surprising that the Rocky Mountain bee plant did not prove to be an exception. It is acrid and pungent and said to be distasteful to animals, which seldom eat it. If the plant had any value for any other purpose beside honey production, an effort to extend the area of its distribution might succeed, but the introduction of plants that are essentially weeds in their nature seldom meets with favor.

Atlantic, Iowa.

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## How I Produce Extracted Honey

BY F. KITTINGER.

(Read at the Wisconsin State Meeting.)

**I**N producing a crop of honey, either comb or extracted, preparations should begin with the previous fall. Each should have a good prolific queen. I prefer queens not over two years old, as a young queen will continue laying later in the fall than an old queen, thus securing a good force of young bees to go into winter quarters. Having all colonies strong in bees of the right age, the next thing is to see that each colony is supplied with sufficient stores of good quality. For cellar wintering I prefer a little sugar

syrup fed to each colony late in the fall, unless it has sufficient sealed honey of the best quality.

I winter my bees both in the cellar and out-of-doors, the majority, however, being in the cellar. I have good success either way. I aim to take them from the cellar about the time soft maples are in bloom, providing I can keep them quiet that long. We take them out at night when the prospects are for a mild still day following. I

find that by taking them out at night they quiet down before morning and come out more gradually the next day, not drifting as badly should it prove to be windy. All entrances are reduced as soon as the hives are removed from the cellar. It is a very important thing that the hives be located in a well sheltered place, out of the sweep of the wind.

About five days after removing the bees from the cellar I start examining them, as the queens should be laying by this time. All colonies that do not show eggs or brood are marked as queenless to be examined again later. At this time each colony is marked by a small stone placed on the cover, the different positions of which indicate the condition of the colony, whether strong or light in bees; whether heavy or light in stores, and whether having a laying queen or being queenless. Each colony is again examined from time to time, and any short of stores are provided with frames of honey or fed sugar syrup, provided frames of honey are not to be had. As soon as the strong colonies can spare a frame of brood, one is drawn from each colony and given to one of the medium ones. This plan is continued until all but a few of the very weak ones have their brood-chamber full of bees and brood.

During the time of fruit bloom, or before adding upper stories, each colony is examined and the queen found. All queens of the previous season's rearing are then clipped, and a tin tag indicating the age of the queen placed on the front of each hive. All colonies that are strong in bees and brood are then given a set of worker combs in an upper story without a queen excluder, giving the queen an abundance of room for brood.

About ten days or two weeks before our main honey flow I slip a queen ex-



FIG. 24.—ROCKY MOUNTAIN BEE PLANT



FIG. 23.—FLOWERS OF BUTTON BUSH



cluder under the upper story. About four days later the colonies are again examined, and what queens are above are found and put in the lower story. In about six to eight days all cells in these upper stories are destroyed. The brood is then allowed to hatch and the combs left to be filled with honey, or brood is drawn from these upper stories to build up weak colonies, it being warm weather by this time. At the beginning of clover bloom, which is usually about June 1 to 10 in my locality, all colonies that contain a hive full of bees are given a set of empty extracting combs above a queen excluder. I find that by giving plenty of room early, it retards swarming, if not preventing it in many cases. The strong colonies are then raised off their bottom-boards about half an inch in front to allow better ventilation.

At the home yard I allow natural swarming, the prime swarm being hived on the old stand. If increase is desired the old hive is moved to a new location, but if no increase is desired the bees are brushed from the combs, all cells destroyed, and the brood piled on weak colonies, or piled two or three stories high on colonies having young queens where it is allowed to hatch, and the combs filled with honey for winter feeding, or extracted if not needed for feeding.

At the out-yards I handle the swarming problem a little differently. When the colonies get strong in bees and I

think they are going to make preparations to swarm, I set the hive off its bottom-board, putting a body filled with full sheets of wired foundation in its place. I then find the queen and put her in this prepared hive on a frame containing a little unsealed brood. The hive of brood is then set on this prepared hive above a queen excluder. In eight days all cells are destroyed. By this plan I do not have a great deal of swarming, but I have not as yet found any way to prevent it entirely. However, by having the queen's wings clipped, I lose very few swarms.

When our main honey flow is on, as soon as a colony gets its extracting super about two-thirds full of honey I raise this super up and put a super of empty combs under the partly-filled super, using eight combs in a ten-frame super. By using eight instead of ten combs, we get thick combs of honey, which are a great satisfaction when uncapping, besides not having nearly as many frames to handle. As soon as the upper stories of honey are nearly all sealed over, we begin extracting. I aim to have an average of from two to three sets of extracting combs per colony, as we do not do any extracting until the honey is thoroughly ripened and sealed over. We now do all our extracting at the home yard where we have a power outfit, steam, uncapping knife and capping melter. I haul all the honey in from the out-yards in a light auto truck,

taking a load of empty combs out when going for a load of honey.

When we extract, our honey is run from the extractor into a large tank holding an average day's extracting. The next morning this tank of honey is skimmed and drawn off into 60-pound square cans. A sample bottle is numbered and filled from each tank drawn off, and all cases of cans from each tank full of honey are numbered to correspond to the number of the sample bottle. By so doing we know just what kind of honey is in any case in the lot without opening a can, by simply referring to the sample bottles. Should there be any variation in color or flavor, we melt some of each lot when putting up cans and pails for our retail trade, so that we have one standard uniform grade throughout the season.

Franksville, Wis.

## Beetles and Beekeeping

BY JOHN H. LOVELL.

**B**EETLES cause much loss to fruit-growers, florists and beekeepers.

The cherry weevil often destroys the crop of plums and cherries, the rose-chaffer strips the rose bushes of both flowers and foliage, while many beetles consume pollen and nectar. In New England I know of 234 species which visit flowers; but fortunately for bee culture this is only a small part of

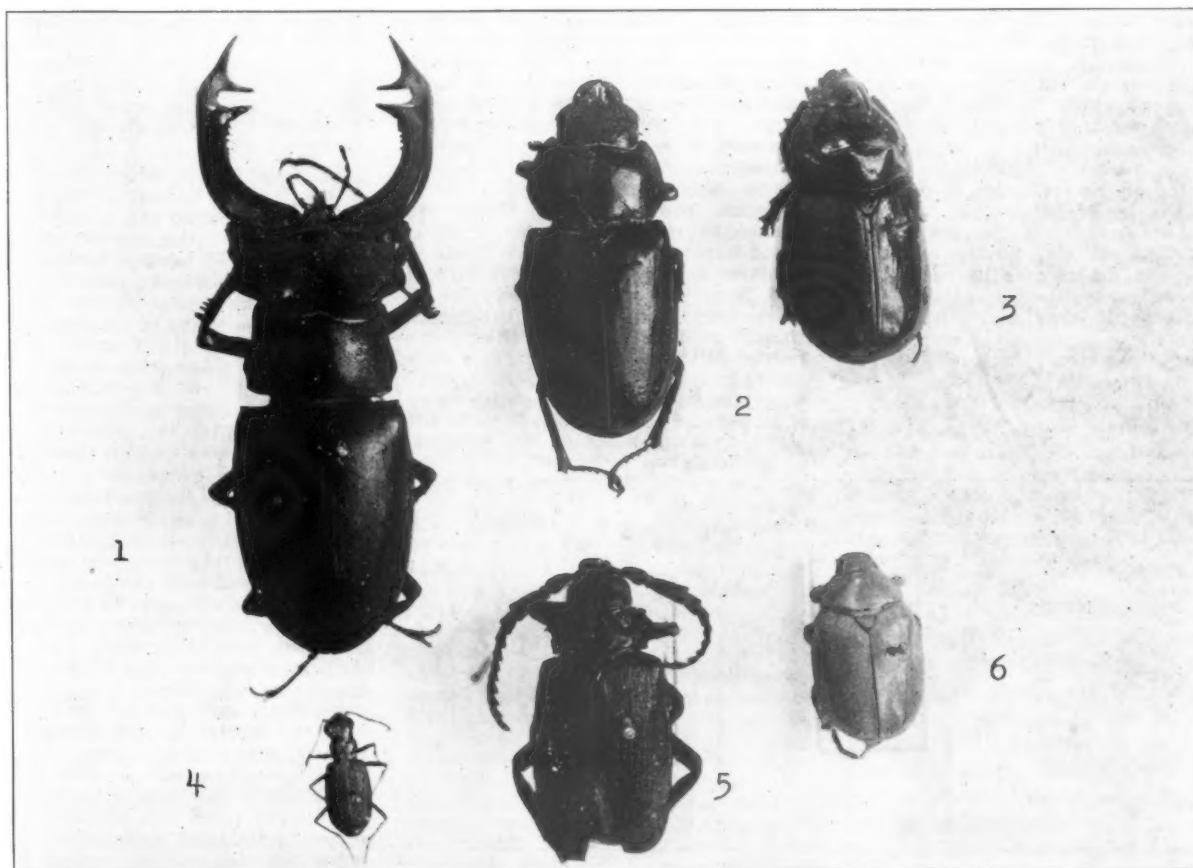


FIG. 1.—Beetles which never visit flowers. Stag beetle, *Lucanus cervus*. 1. Male. 2. Female. 3. Horned beetle, *Oryctes nasicornis*. 4. Tiger beetle, *Cicindela 6-guttata*. 6. *Prionus laticollis*. 5. Goldsmith beetle, *Catalpa lanigera*.

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the total number in this region. At a moderate estimate there are at least 4000 species of beetles in the New England States, so that less than 6 per cent, or about 1-16 live partly or wholly on flower food. This is fortunate for many of them are such voracious feeders that, if they all attempted to resort to flowers, there would be little left for the bees.

But why is it that so few comparatively feed on pollen and nectar? Their habits and forms in many instances answer this question; the tiger beetles and ground beetles are carnivorous and live almost wholly on the ground; while the water tigers are aquatic and also predaceous. Many forms are scavengers, and live on decaying animal and vegetable matter. Among the latter are the tumble-bugs, or scarabæids, so famous in art and Egyptian mythology. The male and female make little balls of dung, which together they roll long distances and bury in the earth to provide food for their offspring—this is one of the few instances among insects, says Comstock, in which "the male realizes his responsibility as a father." Very large beetles, of round stout forms with short legs are too awkward and clumsy to easily visit flowers; for example, I have seen a lady-bug try to climb a smooth flower stem half a dozen times before it finally succeeded. (Fig. 1.)

Moreover most flowers have the nectar concealed where it is beyond the reach of beetles, which, with few exceptions, have very short tongues; consequently, they are usually found on open flowers with visible or nearly visible nectar, as the plum, cherry, pear, shadbush, cornels, strawberry, and goldenrods. On the meadow sweet 42 different kinds have been captured, on the choke cherry 43, on the goldenrods 30, and on the Viburnums 81, while in Virginia 58 kinds have been collected on the Jersey tea (*Ceanothus*). Truly the beekeeper would have reason to be anxious if the nectar were easily obtained in all flowers, for in the case of the plants mentioned not only are there many species of beetle but the blossoms are loaded with their numbers.

Naturally beetles which feed on vegetation, since they are often in the vicinity of flowers, are more likely to visit them than those which are car-

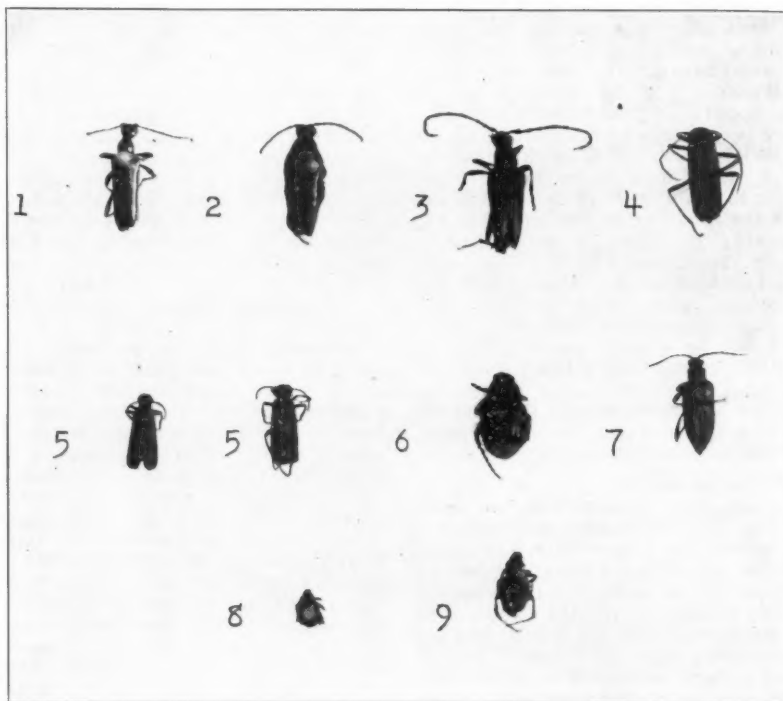


FIG. 3.—Flower-visiting beetles described in this paper. Long horned beetles; 1. *Leptura vitata*. 2. *Typocerus velutinus*. 3. *Leptura canadensis*. 4. Soldier beetle, *Chauliognathus pennsylvanicus*. 5. Blister beetle, *Epicauta pennsylvanica*. 6. *Trichius affinis*. 7. *Donacia piscatrix*. 8. Blue-flag beetle, *Mononychus vulpeculus*. 9. Rose-chaffer, *Macrodactylus subspinosus*.

nivorous; but this does not hold true of the leaf-chafers, which are chiefly night-fliers and devour such an enormous quantity of foliage that the flower food available would be wholly insufficient for their wants. Some carnivorous beetles, like the lady-bugs, show a preference for pollen, probably because it resembles the animal food, in its chemical composition, to which they are accustomed; while others like the wood-borers prefer nectar. There are two very remarkable genera (*Gnathium* and *Nemognatha*), which live wholly on nectar, and have a long tongue like that of a butterfly, except that it cannot be coiled up, but must be carried either in front of them or under them. They of course are able to suck nectar from tubular flowers (Fig. 2). At first

thought it seems strange that other beetles have not also acquired a succtorial tongue, since it is common to all the butterflies and moths; but probably the beetles did not begin to visit flowers until it was too late for them to be easily modified.

Many beetles pass their entire life on a single plant species. The larvæ of *Donacia piscatrix* mine in the leaves and stems of the yellow water lily, while the adult beetles flourish within the floating flowers; another species of *Donacia* attaches its cocoons to the base of the stems of the marsh marigold, and when the flowers open they emerge and climb the stems and live in plenty, half buried among the stamens; the familiar asparagus beetle eats the leaves of the cultivated asparagus, and the beetles visit the flowers.

The blue flag beetle (*Mononychus vulpeculus*) passes its entire life on the blue flag, and is most common during the blooming time of the flowers. It is inactive in the bright sunshine, says Needham, and will dodge around the base of the flower like a squirrel around a branch when a hand approaches, but will rarely fly. "With its beak it sinks a shaft in the nectariferous tissue, nibbles a little, makes another hole, and another and another, until the nectar is left flowing from many punctures, attracting swarms of insects of all sorts." In one instance while the weevil was gnawing a hole, there were three flies facing it and another on its back, "crowding one another like pigs around a trough." The eggs are laid in the seed capsule, the larvæ feed on the young ovules until they undergo their transformation into

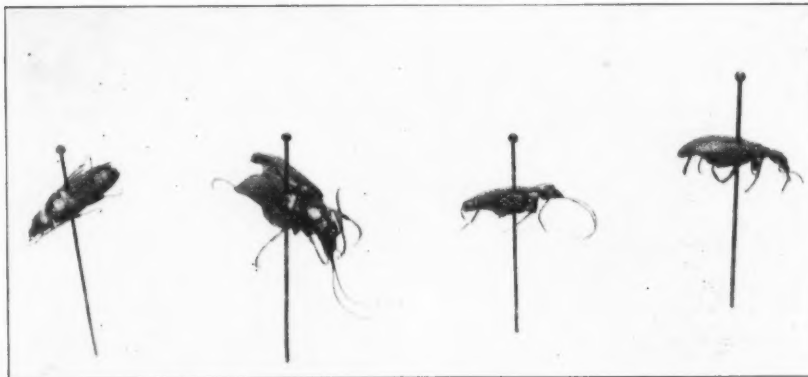


FIG. 2.—Beetles with a tongue like that of a butterfly belonging to the genus *Nemognatha*. Among the 100,000 or more described species of beetles, only two genera (*Nemognatha* and *Gnathium*) have a long, sucking tongue.



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beetles, and finally in the fall the bursting of the capsule sets free both the weevils and the seeds (Fig. 3, No. 8.)

Among the numerous beetles found on the goldenrods are certain dull black, oblong species, which when dried and ground into powder may be used for blister-plasters—they are the blister beetles. At times they appear suddenly by bushels and destroy in a few days large patches of potatoes and tomatoes. The larvæ are brood-parasites on bees, grasshoppers and other insects. When they first hatch they are active, louse-like forms called *triangulins* because each leg terminates in three claws. The eggs are laid on the ground near the stem of a flowering plant, and as soon as the *triangulins* are out of the egg they climb to the flowers, where they wait for the arrival of some insect.

Unfortunately for them they are unable to recognize their hosts, and jump aboard the first conveyance that comes along, whether it is a bee or a fly, with the result that they are often carried far away from the nests they are seeking to reach. There is nothing for them to do but to keep on trying until they either die from exhaustion, or by a happy chance lay hold of the right insect. Hundreds do perish, and to compensate for this loss the female lays some 2000 eggs. If, however, a *triangulin* is carried to the nest of a host bee it feeds on the pollen until it is transformed into a beetle. The adventures of a *triangulin* are analogous to those of a grain of pollen. Wasteful as is this method it succeeds much better than would seem possible (Fig. 3, No. 5).

The long-horned beetles, or *Cerambycidae*, are more important as flower visitors than any other family of the *Coleoptera*. The larvæ are wood-borers, and many of the genera in the adult form live wholly on flower food, as *Leptura*, *Typocerus* and *Strangalia*. They prefer nectar to pollen, and in 41 cases I found species of *Leptura* feeding on nectar, and in only two eating pollen. Beetles often use tubular flowers as places of refuge, hiding in the closed gentians, or reveling for several days on the pollen and nectar of the huge magnolia flowers before they fully expand (Fig. 3, No. 1).

In these war-like times we of New England should not forget that a host of June-bugs once put British soldiers to flight near Boston. In John Trumbull's epic poem "M'Fingal," it is stated that, absurd as it may seem, it was a fact that some British officers, soon after Gage's arrival in Boston, while walking on Beacon Hill, shortly after sunset were greatly frightened by the sound made by flying June-bugs, which they took to be the sound of bullets. They left the hill in great haste, alarmed their camp, and later wrote home to England terrible accounts of being shot at with air guns.

"No more each British Colonel runs  
From whizzing beetles as air-guns;  
Think horn-bugs bullets, or through fears  
Musketoos takes for musketeers."

As pollinators of flowers the beetles are of little significance. The enormous devastation of foliage and blossoms, the absence of hairs for holding pollen, and their inactivity and indefi-

nite manner of flight are factors which greatly reduce their value as pollen carriers. There is no reason to suppose that the structure of flowers would have varied in any way had the *Coleoptera* never acquired the habit of anthophily (love of flowers).

Waldboro, Maine.

### The Queen-Bee—Is Egg-Laying Regulated by the Bees?

BY E. M. COLE.

**B**ELIEVE egg-laying by the queen to be practically automatic, and regulated largely by the amount of nectar brought in from the fields or manipulated by them in any way. I doubt if a nucleus ever reasons, "We are not strong enough to stand the rigors of winter, and must keep up brood-rearing," or if the queen decides, "My family is too small, let us increase it;" but that the queen begs her daily bread whenever she can, and will always be supplied with predigested food if the colony is reaping a harvest, or is handling honey in any way, and whenever she is so supplied, egg-laying is involuntary on her part. I think the construction of the queen's ovaries shows this, and whenever the supply of food is cut off egg-laying ceases.

I imagine the difficulties of hastening egg-laying in the spring by feeding or having it start up or continue in the fall, if egg-laying depended upon the inclination of bees and queen, instead of being involuntary on their part; the bees always willing whenever manipulating honey, to supply the queen with the proper food, and the queen's ovaries always responding to the stimulus.

Father Langstroth is emphatic in the following: "Some apiarists have supposed that the queen-bee has the power to regulate the development of eggs in her ovaries, so that few or many are produced, according to the necessities of the colony. This is evidently a mistake; her eggs are formed without any volition of her own, and when fully developed must be extruded. When the number of workers is too small to take charge of all her eggs, or when there is a deficiency of bee-bread to nourish the young.....she simply extrudes them from her oviduct, and the workers devour them as fast as they are laid." "Hive and the Honey Bee," 1st edition, page 46, 47.

Both the "A B C in Bee Culture" and "Langstroth Revised" assert that in outdoor wintering, when, during a cold spell, the bees have consumed all the honey within their reach, they will perish unless a warm spell comes and enables the cluster to move over to their stores. I believe this is an error, and that the cluster rarely if ever moves over to the honey, but shifts as much honey as possible over to the brood-nest, and right here early egg-laying will begin and continue as long as the bees are able to renew their supply; the number of eggs laid depending upon the amount of honey handled, the quantity of food the colony is large enough to supply, and the vigor of the queen.

Bees are slow to uncap honey except for their own use, but will always use

this open honey to nourish their brood, and as the season warms up, more and more honey is uncapped and moved over to the brood nest. It is rapidly consumed by the bees and brood, and as the hatching bees add their strength to the colony, the supply of food for the queen is larger and egg-laying steadily increases.

The early honey-flows add still more to the food supply and egg-laying is on in full swing, and will continue as long as the flow is on, or the bees are engaged in ripening up or rearranging their stores. Brood-rearing does not necessarily increase during the honey-flow, and may even diminish, although egg-laying may continue heavily. Father Langstroth says, "Hive and the Honey Bee," page 203: "She may often be seen restlessly traversing the combs seeking in vain for empty cells until, finding none, she is compelled to extrude her eggs only to be devoured by the bees."

It has been remarked that when an apiary is moved to a distant location egg-laying is often begun. I think it would be automatically; the continued jarring and disturbance causing the bees to fill up on honey, thus providing more prepared food for the queen.

I have read that when the queen is idle she must supply herself with honey from the cells. I believe it is true, and that she can lay few if any eggs when compelled to digest her own food. As the honey-flow slackens and stops, and the bees finish ripening and capping their stores, the amount of prepared food the queen is able to get diminishes and egg-laying automatically decreases and finally stops. "How much longer, if any, does a young queen continue to lay than an old one?" I doubt if any longer under like circumstances, the difference being in the quantity she is able to lay. In a strong colony egg-laying might even discontinue earlier than in a weak one, having sooner ripened up and capped their honey and consumed their open stores.

Egg-laying will also continue when there is a large amount of uncapped honey in the supers which the bees are allowed to carry below. So I believe egg-laying to be involuntary, neither bees nor queen taking any thought of the matter, the bees being always willing to supply the queen with predigested food whenever gathering from the fields or manipulating stores in any way, and her ovaries developing eggs whenever she is so fed. I also believe any seeming departure from this can always be squared with it, if all conditions in the hive are known.

Audubon, Iowa.

[Mr. Cole has evidently studied the matter very thoroughly, and his article is to the point. He is right in believing that the cluster rarely moves over to the honey, when the honey in the center is all consumed, and we agree with him that the bees shift it over to the brood-nest, and that it is this shifting which helps start the queen to laying, but when the weather is too cold to allow them to move their cluster to the outer combs, it is also too cold for the individual bees to bring it from

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the outer edges to the center. This shifting can take place only in mild days. That is why we said in "Langstroth Revised," page 341: "When all the food in their reach is consumed, they will starve if the temperature is too cold to allow them to move their cluster to the parts of the combs which contain honey; hence *if the central combs of the hive are not well stored with honey, they should be exchanged for such as are, so that, when the cold compels the bees to recede from the outer combs, they may cluster among their stores.*" The words in italics are literally from page 336 of the third and subsequent editions of Mr. Langstroth's original work. A similar thought and advice are to be found on page 323 of his second edition, while the first contains only a mention of the possibility of their "starving in the midst of plenty," on page 104.

We would suggest that it is out of the question for the bees to move their cluster when they have any brood at all in the cells. In such cases they can move only the honey, and if able to do so they induce the queen to breed, as so aptly asserted by Mr. Cole. —EDITOR.]

## Introducing Queen Mated in the Same Yard

BY SOUTHWESTERN BEE CO.

**O**UR apiary manager announces that he is mating his queens this spring in 2-frame nuclei. The frames are regular Hoffman brood-frames as used in our brood-nests, and are therefore wholly interchangeable. Whenever he finds a failing queen or a colony not doing satisfactory work he kills the queen and takes out two frames containing no brood. He then splits the brood-nest in the middle, making room for two frames. He now takes the two frames from his nucleus with all the bees attached to them, the more the better, and places the entire nucleus, bees, queen and all in the open space in the dequeened colony. By this method the work of the colony goes right on without any interruption. No time is lost, and the new queen is accepted without any trouble whatever.

In case of a laying worker colony he puts all the comb containing laying worker brood to one side of the hive and the two frames with the bees and queen from his nucleus on the other side, with empty combs between. In a few days the new queen will begin laying in the first of the empty combs, and then more and more until gradually she will absorb the old colony. Where the laying worker colony was exceptionally strong, he did not disturb the brood-nest, but put his new queen and her two frames in the super. In either case we have had perfect success. The method certainly beats our old plan of carrying the hive away a hundred yards and shaking the bees

upon the ground, or the more heroic remedy of distributing the combs about among strong colonies in the apiary.

In either of the above operations, the two frames in the nucleus must not be separated when placed in the new hive, and it is important to see that the bees have enough honey in the combs so that they can fill up well. Do not smoke the nucleus if you can help it. We hardly ever use smoke in taking

out the two frames with the queen. It is best to keep the queen quiet so that she will not run about. Smoke is to be used with the dequeened colony and also with the laying worker. The new bees and queen being full of honey and therefore quiet, will stay on the two frames. Should any trouble or excitement ensue from the introduction, the new queen is protected by her own bees and will keep on laying. San Antonio, Tex.

## DR. MILLER'S ANSWERS

Send Questions either to the office of the American Bee Journal or direct to  
DR. C. C. MILLER, MARENGO, ILL.  
He does NOT answer bee-keeping questions by mail.

### First Queen Destroys Other Cells

Will you explain what is to me still a contradictory mysticism. A. It is said that the first queen out destroys the other queens as they emerge; hence, there should not be after swarming.

B. Yet the very fact of there being after swarming shows that the first queen does not stay to destroy subsequent ones, but one flies off after the other.

PENNSYLVANIA.

ANSWER.—There is nothing mystical nor difficult of understanding when you get the whole story. When a virgin emerges from her cell, her first care is to find the cells of her younger royal sisters with full intent to murder them in their cradles. With such frenzy does she seem possessed in this regard that I have many a time seen it the case that when a sealed cell was caged the virgin after gnawing her way out would dig a hole in the side of the empty cell, just as she would if a live virgin were in it. Always you may count on this murderous impulse on the part of this royal young personage, and if she were left to have her own way there would never be any after swarming.

Now, however, comes the part that you have left out. She does not always have her own way by any manner of means. In fact, calling her a "queen" is a neat little fiction; the term "slave" would be about as appropriate. The government in the hive is not a monarchy, but a democracy of the most democratic sort, run by a lot of suffragists, and the male person has no vote. If the workers vote that the time has not yet come for the destruction of the young rivals, then a committee stands guard over each cell, driving away the young queen as often as she makes an attack. In the meantime several of the occupants of the cells may become sufficiently matured to emerge, but they are not allowed to do so. The guards maintain a neutrality strict enough to suit President Wilson; they will not let the young queen get out of the cell, although she may have the capping of her cell gnawed away all but a slight hinge; and no more will they allow the queen at liberty to get at the defenseless sisters in their cells. The free queen runs about frantically from one cell to another, at intervals crying, "Pe-e-e-p, pe-e-p, pe-e-p, peep, in a shrill voice, each shorter than the preceding one, and then the prisoners reply in a coarser tone, and apparently hurried "Quahk, quahk, quahk," and this piping and quahking will be kept up until a swarm emerges with the free queen.

Then it depends upon the vote of the suffragists what further shall be done. If they vote for further swarming, a single virgin is allowed to emerge from her cell, and she in turn will go through the same performance as the one who preceded her. But if the vote is for no further swarming, then the guards relax, allowing the cells to be attacked, and also allowing their inmates to emerge. Then there will be a free-for-all fight, one after another each queen will be killed until only one is left, the victor in each case coming off entirely unscathed. Sometimes a number of the virgins will go off with the swarm, where they can settle their differences as well as if they had stayed in the old home.

### Winter Loss—Glass Panels

1. What is the cause of a colony of bees dying in the winter with plenty of honey in the hive? It seemed to be in good shape when it went into winter quarters.
2. If a colony of bees lost its queen in the winter, how long would it live?
3. What is the safest method of dividing a colony and introducing a laying queen that comes from a distance into the hive of the increase?
4. Will it interfere with a colony of bees in winter quarters to have an observation glass in the back end of the hive with a panel on the outside?

MISSOURI.

ANSWERS.—1. It may be that the cluster of bees was in the the center with honey on both sides; the honey was all eaten out of the center, and the bees drew to one side; they ate all the honey on that side and a long cold spell prevented their going to the other side until they starved to death, leaving plenty of honey in the hive.

2. If she were lost in the winter, the supposition would be that she laid as long as usual in the fall. The bees would become less and less in the spring, and if they did not desert the hive the last of them might be dead perhaps some time in May.

3. It is generally supposed that introduction is likely to be successful with the usual queen-cage plan; but you can make it more safe than the average. Take half, or more than half, of the combs with their adhering bees, and put them in a hive on a new stand. Wait until next day, when the field bees will all have gone back to the old hive, and then introduce your queen in this new hive. You see there are no field bees left, and it's the field bees that raise the mischief with a new queen.

4. Yes, any disturbance in winter is not so



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good as perfect quiet, although the colony may live in spite of the disturbance.

## Two Stories for Brood—Granulated Honey in Sections

1. I would like to ask a few questions concerning that large hive. When do you take that second hive off, and don't you have trouble with brood at that time or do you use an excluder?

2. Do your bees go to work in the supers as readily as when only one hive was used?

3. I had a large number of partly filled sections last season, and the honey granulated before I found time to extract it. Can I put these sections into the supers in that condition or would you advise setting them out for the bees to clean out before using?

4. I have thought of purchasing a few good queens for some of my colonies, but have been a little cautious for fear I might introduce some disease. Do you think such a thing possible?

PENNSYLVANIA.

ANSWERS.—1. I use 8-frame hives, which can hardly be called "large hives," so I suppose you refer to my using two stories as brood-chambers, making practically a 16-frame hive. I put on a second brood-story whenever the first becomes crowded, unless I take away some of the brood to use elsewhere. I reduce to one story at the time of putting on supers for surplus. There is so little trouble with brood in sections that I don't think it worth while to use excluders. But if I didn't fill the sections full of foundation I should have to use excluders.

2. Yes, perhaps more readily.

3. Don't think of putting them on again unless you can have the honey cleaned out of them thoroughly by the bees, and next time have that done in the fall.

4. There is little danger, and probably none, if you kill the escort bees.

## Greening's Plan for Comb Honey—Making Nuclei

1. At first glance of the article by Greening, in September, 1914, issue, page 310, it looked mighty well, but now it looks a little dubious, especially for a comb honey producer, and what I want to know is to what extent do you consider it well advised to try that method, and especially what further things to observe for comb honey in case of following the Greening way. Mr. Greening seems essentially to be an extracted honey man.

One snag about the whole plan is that what is so extolled in the aforesaid issue of the American Bee Journal, is by paragraph 472, page 246, 1911 edition, Dadant-Langstroth bee-book condemned.

2. I want to see this year whether I can make nuclei. I have four 10-frame hive-bodies each especially fixed for the nuclei. Will it work just to take the frames with brood and queen cells and honey from hives in sets of three and put them into the hive-bodies fixed with divisions that I have; then, when one wants to use a nucleus, seeing that the queen in one is all right and has laid eggs, put the same on stand of the colony to be requeened, and that colony next to the nucleus (now on previous stand of the colony), and gradually, say every second day hereafter, combs of brood into the nucleus hive without or with adhering bees, but latter only when sure about not having the old queen? At last one could shake or dump the bees in front of the nucleus hive and take the old hive away altogether.

I wish I knew how to exclude the old queen without having to look for her. I am lamentably poor in finding queens. What about field bees killing the bees of the nucleus as they came in?

PENNSYLVANIA.

ANSWERS.—1. It is not a gracious thing to make objection to a plan which succeeds so well with the planner; and sometimes our judgment may be wrong, if we judge without actually trying. So all I can say is that I should not have faith enough in the plan to give it a trial for comb honey.

Mr. Greening says: "Working for comb honey would be rather more difficult. But I also do some of that." He doesn't say how he adapts his plan for comb honey, and I

don't know how he does. But for extracted honey he should have good success by giving such abundance of room and shifting the brood; although it seems there might be a little too much of a good thing by giving so much room over the brood nest for the bees to keep warm before the honey-flow.

The snag you run against, which you say is not endorsed by Dadant's Langstroth, refers to his manner of increase. A serious question as to that refers to the quality of the queen that will be reared. He puts a frame of brood in an empty hive, and nothing is said about any bees being taken with the comb, but the hive is allowed to be occupied by returning field bees. These are bees that have given over all housework, and are in no condition to feed young bees, although they will do so when driven to it. So I should not expect as good queens as with abundance of young bees of the proper age to rear brood.

2. There ought to be no difficulty about having three nuclei in a 10-frame hive with proper divisions, an important thing being that each nucleus be imprisoned for two or three days, so that the bees will not desert. If I understand correctly, your plan is (after the queen is laying in a nucleus) to put the nucleus in a hive of its own, and set it in place of a hive containing a colony you want to requeen. Better not; the whole force of field bees will at once occupy the new hive, and it is a pretty sure thing the new queen will be killed. You will greatly multiply your chances of success if you remove the old queen two or three days in advance.

You ought to be able to sift out the queen with an excluder. Here's one way. Call the hive that contains the colony A, and let the empty hive be called B. Brush all the bees from half or more of the combs in A, and put these beeless combs in B. Take A from its stand, and put B in its place. Put an excluder on B, and over this an empty hive-body. Into this empty hive-body brush all the bees from the combs in A. All but the drones and the queen will go down, or may be smoked down, leaving the queen in sight.

[The paragraph of the Dadant-Langstroth book mentioned in the query is by Mr. Langstroth himself. The reader will find it in any copy of the 3d or subsequent editions of the original "Hive and Honey Bee," pages 150-1 and foot-note. There is not any doubt that queenless colonies build only drone combs.—C. P. D.]

## Breeding from Choice Queens

1. In one of my colonies of bees I have a very prolific queen which I desire to breed from and requeen five other colonies. Later I wish to divide one colony into two or three frame nucleus and rear queens from this same stock. Please advise the best method for me to pursue.

2. Please explain the meaning of the following: Breeding bees according to the "reflex theory." The danger of gypsy moths mating with queens. KENTUCKY.

ANSWERS.—1. It's a bit hard to know just how to advise, there are so many ways of doing and so much depends upon circumstances, previous experience, and perhaps other things. In spite of the fact that I don't like advertising in this department, I will say that I think you would get information enough on this one topic alone to make the purchase of "Fifty Years Among the Bees" a profitable investment. But I'll give you one way that ought to be successful, even if you have but little experience. Strengthen the colony with your choice queen by giving it brood with adhering bees

from other colonies, so it will be the first to swarm. Call it A, and name the other colonies in the order of their strength, B, C, D, E, F. When A swarms, set the swarm on the stand of B, and set B in a new place. A week later you can cut out the queen-cells and give them to C, D, E, and F, having dequeened these a day previous. If, however, you want to operate in an easier way, after you have put A in place of B, it will be strengthened by receiving all the field bees of B as they return from the field. Then it will be practically certain to swarm when the first virgin emerges, and you can leave the swarm on the same stand from which it issued, and set A in place of C. Repeat the same thing each time A swarms, setting it successfully in place of D, E, and F.

The author says "this is a typographical error, and should read gypsy *drones*."

## The Chandler Plan of Swarm Prevention

I can scarcely call myself a beekeeper, even a back-lotter, as I have only four colonies. This year I would like to build up to ten, eight at least, and get as much honey as possible. I planned to do this by preventing swarming until the main flow (white clover) is almost over, then making artificial swarms.

1. Would this be better than to let them cast natural swarms when they wish? I intend to use the Chandler plan of swarm prevention, as described in the Bee Journal for September, 1913. This is to replace the super with an empty hive-body containing a little drawn comb, and brood and starters in the other frames. This is separated from the brood-body by a screen, and projects forward a little farther than the brood-body. A cone escape is put on the entrance so that the bees returning will have to crawl up the hive front into the upper body. Leave it this way about four days. The queen will destroy the queen-cells and the swarming fever will be cured.

2. My objection to this would be that a close watch must be kept for queen-cells so as to know when to start it. Is there any better plan for comb honey?

3. Would it be practicable to divide each two colonies into five by forming two colonies out of the old bees and three out of the equal parts of the brood?

4. Would the divisions have a better chance to build up strong for winter if they were given queens or sealed cells instead of letting them rear queens from brood?

5. My plan is to form a 3-section nucleus, like a mating nucleus, then dequeen a short time before queens would be needed. Would the nucleus start queen-cells?

6. Would it be self supporting or would it have to be fed?

7. I am certain that some where in your answer you will use the proviso: "If the colony is strong." Mine have never been strong according to my notions, but have done pretty well considering the amateurish management. What is a good rule to go by in this problem? I hesitate to bother you with such questions. MINNESOTA.

ANSWERS.—1. I don't know. It would certainly be less trouble to let them swarm, which they are pretty certain to do if the season is good, and if you set the swarm on the old stand it will be most likely to give you a fair return in honey. You would thus feel a little surer of having all in good shape for winter than if you divide later.

2. It isn't easy for any one else to say what is best in your case. You can yourself decide best after carefully studying what is said in the books.

3. Yes.

4. Certainly. More than that, if you trust to a nucleus to rear a queen from brood, the chances are that you will have a very poor queen. Nothing but the best in the way of queens ought to be counted good enough.

5. Yes, a very weak nucleus will start cells, but I wouldn't give a cent apiece for the queens reared.

6. That depends upon the strength of the nucleus, and more particularly on the sea-

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son. Give it time enough and flow enough, and even a very weak nucleus may be all right for winter.

7. If you have five frames well filled with brood at the beginning of white clover, I should call it a good colony, and anything beyond that might be called strong. Don't be afraid I will be bothered. That's what I am here for.

## What to Do With Last Season's Unfinished Sections

I have just finished reading "Fifty Years Among the Bees," and feel so well acquainted that I am going to ask a question which you may answer in the American Bee Journal if you will kindly do so.

I have a lot of sections that were on the hives last season, but owing to the drouth, which caused a sudden stop in the honey flow, they were not completed. Some of them contained some honey, which I allowed the bees to remove last fall, and merely started to be drawn. (They had had full sheets of foundation in the first place.)

Now shall I use these as they are this season or will there be too much mid-rib to make the best honey? I have often used the "go backs" for baits, using from one to four in a super, but I have 20 to 30 supers full now.

SOUTH DAKOTA.

ANSWER.—If you have unfinished sections that are fall-emptied and in good condition, use them and be exceedingly thankful for every one you have. Bees do not add to the mid-rib, no matter how long sections are left on the hive; but there is danger if they are left on too long in the fall that the bees will plaster them over with propolis, in which case there is nothing to do but to cut out and melt them up.

## Queens and Nuclei—Introducing

1. How may I rear choice queens on a small scale?

2. Can you give me a good method for making nuclei for a rapid increase of colonies?

3. What is a safe method of introducing virgin and laying queens to replace old or queenless colonies?

MINNESOTA.

ANSWERS.—1. To go fully into the minutiae of queen-rearing would be beyond the scope of this department, but I will give one plan that should give you the best of queens. Of course, if you rear choice queens you must have a choice queen from which to rear them. The colony containing this queen should be built up strong, if necessary, by the addition of brood and bees from other colonies, so that it shall be the first to swarm. About eight days after it swarms there should be a fine lot of queen-cells that you can utilize to the best advantage. The more nearly mature they are the better, but if left too late there is danger that some of them may be torn down by the bees. If you are willing to take the trouble, there is a plan by which you may have them fully mature. When the colony swarms, hive the swarm on a new stand, leaving the mother colony comparatively strong. You might even return some of the bees of the swarm to the old hive. Beginning about a week after the issuing of the swarm, go to the hive each evening after the bees have quieted down, put your ear to the side of the hive and listen for the piping of the young queen, which you will hear as soon as she issues from her cell. You will have no difficulty in distinguishing her sharp, clear tones, even if you have never heard a queen pipe before. The other virgins in their cells will quahk in reply.

Now go to the hive next morning and cut out all cells, but look sharp that none of the virgins escape which have gnawed open the capping of the cell, but are kept prisoners by the workers. In "Fifty Years Among the

Bees," I have very fully detailed the way in which I rear queens for my own use, a plan I would use if I had only a half dozen colonies. I think it might pay you well to get the book just for that part alone.

2. Just what is the best way depends upon circumstances, but here is one way. First let me say that one difficulty in making nuclei is that if you put into a hive a good nucleus without any precaution, the bees are likely to desert it. So put an excluder over a colony, the stronger the colony the better, and over the excluder put an empty hive-body. Into this empty hive-body put frames of brood with their adhering bees, taking these from any colonies that can spare them, taking from each one, two, or more frames, according as they can be spared. If you have enough bees you can pile up another story or more.

A week or eight days later take these frames of brood and bees, using three of them for each nucleus. They will be likely to stay where they are put, but to make sure you can plug the entrance with grass or green leaves, so that the bees can dig their way out if you forget to open the entrance in a day or two. If rapid increase is what you are after, you can take from each of these nuclei, three days after you have formed them, one frame of brood and bees each, and use them for other nuclei.

3. There are different ways that are safe enough for practical purposes, but I'm not sure that I know more than one way that is absolutely safe. Put frames of brood over an excluder over a strong colony. Eight days later all the brood will be sealed. Put over a strong colony common wire-cloth, and over this a hive-body, into which you will put your frames of brood after carefully brushing off every bee from them. Into this put your queen. Of course she is safe, for there isn't a bee in the hive with her, but young bees will be hatching out every minute which have known no other queen, and of course they will be friendly. Understand that this upper story must be perfectly tight, so that not a bee can get in or out. Five days later set this upper hive on a new stand, allowing at first an entrance large enough for only one or two bees at a time. If you look an hour or so later, you may have the pleasure of seeing bees only five days old carrying in pollen.

## Soil Influences Honey Yield

1. Does honey-dew come any time of the year? My bees seemed to be storing something in the warm days of February, before there were any blossoms of any kind.

2. Why is it that some plants produce honey in some places and don't in others? Cotton, for instance, yields heavily in both north and south Georgia, but does not yield honey, or the bees do not get it, just a little north of the center of the State, among the red hills.

3. Can you make 20 percent increase by going through the apiary and making a colony at different times without hurting the honey flow?

4. Can you control swarming entirely by keeping all queen-cells torn out?

GEORGIA.

ANSWERS.—1. Honey-dew may come almost any time plants are growing; but I suspect your bees are working on something else than honey-dew in February.

2. I don't know; only I know it is so. The soil or the elevation may have something to do with it.

3. I think it is quite possible that it might be done without diminishing the crop, at least in some cases. Just enough strength taken from each colony to prevent swarming might increase rather than diminish the total harvest.

4. Cutting out the first queen-cells will generally delay swarming. Continuously cutting them out will in some cases prevent swarming altogether, but generally not.

## Using Old Combs

1. I lost a few colonies last fall. They seemed to be all right when I took their supers off. They had a little honey in them. Shortly afterwards there were neither bees, honey, nor brood. What was the cause?

2. I have the brood combs, they are black. I also have some that the moths have been in, that I lost earlier. Are those combs any good, or had I better throw them away? I thought I could use them for natural or artificial swarms.

KANSAS.

ANSWERS.—1. They may have starved or absconded for want of food, or they may have been robbed out.

2. If not too badly torn by worms they are all right to use again.

## Supersede—Queen-Breeders

1. How is it that bees neglect to supersede their old queen when there are drones to mate with the young queen, as this has happened to me several times late in the fall?

2. How is it that most of the queen-breeders advertise queens for sale and none can supply the beekeeper with queens early, but only want their orders booked early, and maybe have the queens forwarded the latter part of May or middle of June; the time when every beekeeper has plenty of queen material to supply himself?

3. I make a nucleus to save the queen. Is this right or not?

KANSAS.

ANSWERS.—1. If I understand correctly, you have had queens superseded, or at least have had them die in late fall or early spring when there were no drones, and your question is why they didn't supersede them earlier, when plenty of drones were on hand. I don't know. It is possible that some accident may befall a queen, and of course the bees could not foresee this. It would seem that bees recognize the trouble when a queen begins to fail, and supersede her; and it is possible to conceive a case in which there was no sign of failure while drones were still present, but an unusually rapid failure after they were gone. The fortunate thing is that such cases are rare; nearly always a queen is superseded with abundance of drones present.

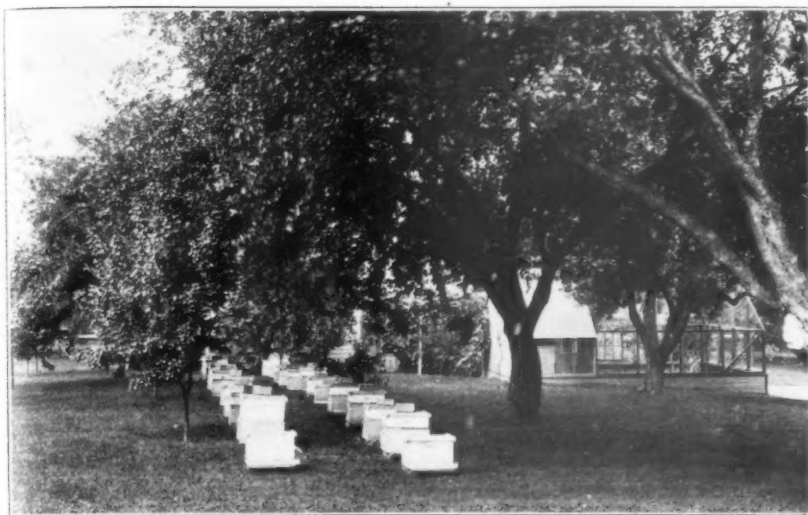
2. Don't be too hard on the queen-breeders; you may sometime be one yourself. It is all right to book orders to be filled as fast as possible, provided it is an understood thing that they are to be so filled. If, however, he advertises to send queens by return mail, and then delays, he's not giving you a square deal. It looks a little as if your idea was that when you order a queen you should always get it by return mail. It would be difficult for a man to treat all his customers in that way. He would be obliged to have a stock of queens on hand before he made such an agreement; he would have no way of knowing how many to have in advance; and might be overstocked at a loss. You can, however, say when ordering, "If you cannot send a queen at such time, return money," and then there could be no complaint on either side.

You say they send queens when every beekeeper has plenty of material to supply himself. Pray tell me how a queen-breeder can have material earlier than the beekeeper. You and I can have material as early as any, and can rear queens as early; but we may want to buy queens for other reasons. Moreover, I wouldn't give 30 cents a dozen for queens reared too early, no matter who rears them.

3. Yes, making a nucleus to keep a queen in is good practice.



# American Bee Journal



CITY APIARY OF H. E. HESSLER AT SYRACUSE, N. Y.

## REPORTS AND EXPERIENCES

### Notes from Mr. Lovell

The article and illustrations on the Visconti family in the American Bee Journal for December were especially valuable. To one acquainted with their warlike history in the 14th and 15th century, their attention to beekeeping and the culture of the silkworm seems almost anomalous; but as history deals largely with wars, etc., very likely they even then gave attention to agriculture; certainly Lombardy was known as "the garden of Italy."

We are having a very mild January, and bees are wintering well. Mr. Pellett's paper on honey-plants with its suggestions of another summer's work is exceedingly welcome.

JOHN H. LOVELL.

Waldoboro, Maine, Jan. 18.

### The Water Treatment for Foulbrood

As soon as foulbrood is discovered in any colony of ordinary strength, the diseased colony should at once be treated by placing in a tank with sufficient water as deep as the bottom-board; tank to be perfectly level, and the water deep enough to keep the bees from escaping from the infected hive. Take a clean hive, with full sheets of foundation, place a wire-cloth upon the top of clean hive and place the clean hive upon the top of the diseased hive in such a manner that the bees can readily work up into the clean hive, putting weights on top of upper hive to keep the lower hive from floating.

Commence pouring water into the tank in a steady stream, so that it will consume about 20 minutes for the water to get high enough to force all the bees from the diseased bottom into the clean top. Continue the water until it is forced to the top of the lower hive.

Great care must be taken to not pour in too much to raise the water above the joint of the lower and upper hive. After this treatment has progressed this far, the bees are absolutely clean and free from any disease. Then take the clean hive, have your bottom-board ready on the same stand as you had the diseased stand, set your clean bees on top of the bottom-board and your treatment is complete.

Take diseased colony or the old hive and destroy it totally by fire.

F. R. MCCOY.

Idaho.

Mr. McCoy informs us that he has cured colonies of American foulbrood by this treatment. It is evidently based upon the fact that the bees are not frightened but

simply forced to abandon their combs as the water rises. Thus they leave them without filling themselves with honey. As every beekeeper knows, the contamination is spread by tainted honey. If the bees carry any of that contaminated honey with them, the cure would not be complete. It very probably would be insufficient in cases of European foulbrood, since this is usually transmitted by the queen.—EDITOR.]

### Sugar Feed Better than Some Honeys

The Bee Journal is again at hand, and as good as usual, but there is one thing I take exception to is the paper on "Wintering Bees," by Lewis Post, at the Wisconsin

meeting, where he terms sugar syrup a dope. We will have to look into the sugar trust's kind of sugar furnished to Wisconsin, or Bro. Post's mistaken statement. Honey-dew is worse than dope unless bees can have at least one flight a week through the winter; if no flight, there will be dead bees in the spring. But with sugar, either granulated or cut loaf, but no cheaper grade, the bees will winter better than on any honey they may gather, and Bro. Post will be able to prove that, if he will try it, too. Many things are stated that sometimes mislead those that are learning, and lean on those who can state fairly what experiments have done.

For you can take all the honey away from a strong colony as late as Oct. 15, and give only 15 pounds of cut-loaf sugar on top of frames, placing the bees in two hive bodies for outside wintering or one body for cellar wintering; putting an oil-cloth covering over sugar, an empty super and air excluding packing inside of super and outside packing as other hives are treated, and those on sugar will be the best in spring. The same with syrup, only more syrup and the start to feed must be earlier. We have late honey here that causes more or less dysentery, and I have not been able as yet to trace it. The taste to me is as good as buckwheat honey, and I am sure that sugar beats that kind of honey. The difference in our localities might make the difference, or bad sugar. But no excuse will go with me. Sugar beats honey at any time for wintering bees, if given to them by one who knows how, from years of testing the best way. I hope that those who might be caught short of honey late in the fall will not let their bees die for the want of good granulated sugar syrup.

GEO. M. STEELE.

Philadelphia, Pa., Feb. 15.

[There is no doubt that, for wintering, sugar syrup beats honey-dew or honey loaded with pollen grains. These load the intestines of the bees and are deadly, in long confinements. But the Wisconsin people usually have very fine, light-colored honey. We are not astonished that they prefer it to sugar syrup.—EDITOR.]

### Folding Sections, Etc.

I want to tell you the way I cut my foundation for sections. I have a miter box such as described in "A B C and X Y Z in Bee Culture," but the saw kerfs are as described on page 147 of "Fifty Years Among the Bees," that is, 3/4, 6/8, 1, 1 1/8, and so on. You need no rule to fuss with, and you can cut 15 sheets as quickly as one, although it takes a little longer to place 15 than one, using a little soapy water on knife. This way of cutting foundation one can cut about one-half more in the same time and no risk of



APIARY OF REV. H. L. HART AT BECKER, MINN.

# American Bee Journal

cutting fingers. The miter box should be perfectly square, if one wants the foundation to hang plumb in the sections. I have used starters of various sizes, but find those like you use to be the best. I shall never be content with starters hereafter. I shall use full sheets as you advise.

In putting foundation in sections I have a device of my own "get-up," with which I can finish four sections with one handling, top and bottom starters at one handling. I also have a section press of my own devising, which beats anything I ever had, and I have bought several. All I have to do is to sit and fold them, not even putting the dovetail together, as the machine does that part better than any one else could possibly do it by hand, and when they come from the press they are perfectly square.

Columbia City, Ind. FRANK LANGOHR.

## The Cause of Drone-Cells

I am using the Hoffman frame entirely, and I am well pleased with it except that I find the percentage of drones reared is rather large. Could you tell me what ought to be the right width of the end-bars so as to give the proper spacing and reduce to a minimum the rearing of drones?

ERNEST A. FORTIN.

Rougemont, Quebec.

[I do not believe that the thickness or width of the top-bar and end-bars and consequent spacing would have any important influence over the number of drones reared. There comes a time in every season, when the queen, especially if she is an old queen, wants to lay eggs in drone-cells. At those times, as noticed by Dr. Miller, myself and others, the bees will purposely leave empty the drone-cells that may exist in the hive, even if such drone-cells are only to be found in the supers. Then the queen will lay in them. If there is not enough room, I believe the bees will cut down the opposite cells, rather than fail to rear drones in these cells.

The only practical method I know of to prevent the rearing of drones is to replace the drone-comb with worker-comb, early in the season. Even then, there will always be scattering drone-cells here and there, enough for a few hundred drones in each colony.]

## False Parsnip

My bees wintered finely; they were confined to their hives 3½ months without a flight. Last fall I got some large paper packing cartons and packed my bees in them. On Feb. 2, the bees began bringing in honey and bee-bread, and have been doing so ever since the pussy willows and soft maples were in bloom. There is another small plant with a white blossom that is in bloom that the bees get lots of honey from; I will send you some of the plants. The bees work on it the same as they do on buckwheat in old Maryland. JAMES HERON.

Ellensburg, Wash., March 15.

[Prof. Pammel, of Ames, Iowa, to whom the specimen was referred, calls it false parsnip (*Peucedanum hendersoni*), native of the States of Washington and Oregon.—ED.]

## Milkweed in British Columbia

I notice in the American Bee Journal for March an article on "Honey Plants and Their Value" (page 80), in which the name of Dr. L. H. Pammel, State Botanist, Ames, Iowa, appears, where mention is made of Indian hemp and whorled milkweed (*Asclepias verticillata*). We have a wild flower in this province that grows nearly everywhere and is one of our best honey plants. I am wondering whether it is identical with the above. The local name is milkweed, as it exudes a milky sap when broken or injured. It grows about two feet high and commences to flower about the end of June, and lasts in bloom a long time. The flowers are borne in clusters, small and bell-shaped; in color white slightly tinged with pink, and are strongly fragrant. The seed pods also formed in clusters are about three inches long, something like dwarf beans in miniature. The seed, when ripe, is covered with white down very like the fireweed. I sent foliage and flowers of this plant to England

for identification, and was informed that it was *Apocynum hypericifolium*, and belongs to Periwinkle family. I find on reference to one of my books on botany that *Apocynum* is also known as Dogbane and Indian hemp. I am told that the Indians smoke Indian hemp. The honey from this plant is light in color and the aroma of the flower is quite recognizable in the taste of the honey. Any information that will establish the identity of this to us important bee-plant will be much appreciated.

Nelson, B. C.

[The Indian hemp referred to is a species of *Apocynum*. We have two species in Iowa, one, *Apocynum androsaemifolium*, and the other *A. cannabinum*. The *A. hypericifolium* by some botanists is regarded as a variety of *cannabinum*. The English determination is correct. The milkweed *Asclepias verticillata* has cream colored flowers. I do not think it occurs in your section of British Columbia.—L. H. PAMMEL.]

## No Loss Whatever

I have owned and kept bees since 1852, and I never had them do better than the past winter. I put 48 colonies into the cellar Nov. 19, and took them out April 11, all in good condition.

Darlington, Wis., April 15.

JOHN CLINE.

# Classified Department

[Advertisements in this department will be inserted at 15 cents per line, with no discounts of any kind. Notices here cannot be less than two lines. If wanted in this department, you must say so when ordering.]

## BEES AND QUEENS.

PHELPS' Golden Italian Queens will please you.

BEES AND QUEENS from my New Jersey apiary. J. H. M. Cook, 1Atf 70 Cortland St., New York City.

GOLDEN all-over Queens. Untested, \$1.00. Tested, \$3.00. Breeders, \$5.00 and \$10. Robert Inghram, Sycamore, Pa.

PHELPS' Golden Italian Bees are hustlers.

ARCHDEKIN's fine Italian queens and bees. See larger ad. in this issue. J. F. Archdekin, Big Bend, La.

NOTICE W. W. Talley will sell bright Italian queens this season at 60c each, \$7.00 per dozen. Safe arrival guaranteed. W. W. Talley, Rt. 4, Greenville, Ala.

QUEENS OF QUALITY—I am booking orders for early queens now. Three-banded Italians only. Circular free. J. I. Banks, Dowlstown, Tenn.

ITALIAN and Carniolan Queens, the earliest and best to be had of either race. My circular and prices are free. Grant Anderson, San Benito, Tex.

ITALIAN QUEENS for sale this season at 60c each; \$7.00 per dozen. Ready April 15. Safe arrival guaranteed. T. J. Talley, Rt. 3, Greenville, Ala.

PLACE your order early to insure prompt service. Tested, \$1.25; untested, \$1.00. Italians and Goldens. John W. Pharr, Berclair, Tex.

QUIRIN's superior improved queens and bees are northern bred, and are hardy. Orders booked now. Over 20 years a breeder. Free circular. H. G. Quirin, Bellevue, Ohio.

GOLDEN Italian Queens, about June 1. Untested 75c; half doz., \$4.00. Tested, \$1.25. Pure mating guaranteed. J. I. Danielson, Rt. 7, Fairfield, Iowa.

TRY my best bright yellow queens. They are beautiful and good honey "getters." 50c each or \$7.00 per dozen. Safe arrival and satisfaction guaranteed. M. Bates, Rt. 4, Greenville, Ala.

THREE BAND and Golden Yellow Italian Queens. Untested, one, \$1.00; six, \$1.50. Tested, \$2.00, ready April 15. Safe arrival. Send me your orders early. E. A. Simmons, Greenville, Ala.

QUEENS—The quality kind, 3 band Italians only. Winners at Hartford and Berlin, 1914. Untested after June 1, \$1.00. A. E. Crandall & Son, Berlin, Conn.

GOLDEN QUEENS that produce Golden Workers of the brightest kind. I will challenge the world on my Goldens and their honey-getting qualities. Price, \$2.00 each; Tested, \$2.00; Breeders, \$5.00 and \$10.00. 2Atf J. B. Brockwell, Barnett, Va.

WANTED—To send our list to you of our famous honey gathering and almost non-swarming strain of Golden queens. No better bees of any strain to be found. One fr. untested, \$1.00; 6 for \$5.00; 12 for \$9.00. Write us what you want. T. S. Hall, Talking Rock, Ga.

THE SECRET OF SUCCESS is in having your colonies headed by good prolific queens. We have good Italian queens at 75c for untested and \$1.00 for tested. G. W. Moon, 1904 Adams St., Little Rock, Ark.

QUEENS, improved three-band Italians bred for business, June 1 to Nov. 15. Untested Queens, 75c each; dozen, \$8.00; Select, \$1.00 each; dozen, \$10. Tested Queens, \$1.25; dozen, \$12. Safe arrival and satisfaction guaranteed. H. C. Clemons, Boyd, Ky.

FOR SALE—After June 15 Golden Italian queens. Strictly northern bred and hardy. Fine honey gatherers and gentle. No disease. Safe arrival guaranteed. Untested, \$1.00; 6, \$5.00; 12, \$9.00. Tested queen after July 15, 50c each extra. J. Stuart Scofield, Kirkwood, N. Y.

GOLDEN and 3-banded Italian and Carniolan queens, ready to ship after April 1st. Tested, \$1.00; 3 to 6, 95c each; 6 to 12 or more, 80c each. Untested, 75c each; 3 to 6, 70c each; 6 or more, 65c. Bees, per lb., \$1.50; Nuclei, per frame, \$1.50. C. B. Bankston, Buffalo, Leon Co., Tex.

IF YOU NEED a queen for that queenless colony, you want it as soon as you can get it. We can furnish tested queens by return mail, \$1.00 each. Three-band Italians, bred for business. No disease. Satisfaction guaranteed in every case. J. W. K. Shaw & Co., Loreauville, La.

FAMOUS North Carolina Italian Queens for sale. Reared from Howe's best breeders. Mated with Root's, Moore's, Davis', select stock. Free from disease. Untested, one 75c; per doz., \$7.50. Select untested, one, \$1.00; per doz., \$9.00. Tested, \$1.25; select tested, \$1.50. Breeders, \$3.00 and \$5.00. H. B. Murray, Liberty, N. C.

PHELPS' Golden Italian Queens combine the qualities you want. They are great honey gatherers, beautiful and gentle. Mated, \$1.00; six, \$5.00; Tested, \$3.00; Breeders, \$5.00 and \$10. C. W. Phelps & Son, 3 Wilcox St., Binghamton, N. Y.

I CAN supply you with Golden or three-banded Italian queens. Tested, \$1.00 each; six or more, 85c each; untested, 75c each; six or more, 65c each. Bees, per pound, \$1.25. Nuclei per frame, \$1.25. Write for prices on large orders. Everything guaranteed. I. N. Bankston, Buffalo, Tex.

CALIFORNIA QUEENS, Nuclei and Bees bred from the best Doolittle stock, ready for shipment at once. Queens, untested, 75c; dozen, \$8.00. Tested, \$1.25; dozen, \$12. Mismatched, one year old, 75c; dozen, \$8.00. Nuclei, 2-frame, \$1.50; 3-frame, \$2.25; 5-frame, \$3.00; 10-frame colony, \$4.50. Bees by pound, ½ lb., 75c; one lb., \$1.00. Add prices of queens desired to all above prices of bees and nuclei. Delivery guaranteed. No disease. Spencer Apiaries Co., Nordhoff, Calif.



# American Bee Journal

**FOR SALE**—After June 1, good 3-banded Italian queens in small lots. Untested, one, \$6.00; 12, \$7.00. Tested, one, 90c; 12, \$10.50.  
Leon Morris, Elizabethtown, Ind.

**FOR SALE**—Fine honey gathering strain of Italian bees in pound packages. One lb., \$1.50; 10 lbs., \$12.50; 100 lbs., \$100. Special prices on larger quantities. Small shipments by return mail.  
Leib & Miller,  
R. F. D. 7, San Jose, Calif.

**ITALIAN BREEDING QUEENS** will be ready to send out May 1. Prices, \$2.50, \$5.00 and \$10. Queens of this year's rearing not ready before the middle of June.  
Doolittle & Clark, Marietta, N. Y.

**ITALIAN QUEENS**, also the Golden Beauties and Carniolans. Tested, \$1.00. Untested, 75c each. For bees by the pound and queens in lots write for prices. Page Bankston, Buffalo, Tex.

**QUEENS** ready in May. J. E. Hand strain of 3-banded Italians, extra good workers and very gentle. Prices, select untested, \$1.00 each; 6 for \$5.00. Select tested, \$1.75 each; 6 for \$9.00. Breeders, \$5.00 each.  
J. M. Gingerich, Kalona, Iowa.  
(Formerly Arthur, Ill.)

**THREE-BANDED** Italian Queens ready April 1, of an exceptionally vigorous and long-lived strain of bees. They are gentle, prolific, and good honey gatherers. Untested, \$1.00; 3, \$2.50; 6, \$4.50; 12, \$8.00. Tested, \$1.25; 6, \$6.50; 12, \$12.  
Jno. G. Miller,  
723 So. Carrizo St., Corpus Christi, Tex.

**NOTICE**—R. A. Shults will sell Italian queens in the season of 1915. Untested, \$1.00. After June 1, 75c; tested, \$1.50; select tested, \$2.00. Breeders, \$5.00. Bred from Moore and Doolittle stock.  
R. A. Shults,  
R. F. D. 3, Cosby, Tenn.

**FROM SOUTHERN NEW MEXICO**—My yards will be able to furnish you bees by the pound at an early date. No disease. Satisfaction must be yours. Write at once. I can surprise you on prices. Established in 1914.  
S. Mason, Hatch, New Mexico.

**DURING** spring and summer months we require all our two thousand colonies to prevent swarming. The queens removed from those hives are only one year old and of best Italian stock. We offer these queens at 50c each; \$5.40 per dozen. Satisfaction guaranteed or money back. No disease.  
Spencer Apiaries Co., Nordhoff, Calif.

**FOR SALE**—Queens, three-band Italians. Extra good strain. Their bees are great hustlers. Only drones from selected queens near mating yard. Untested, one, \$1.00; 6 for \$4.50; 12, \$8.00. Ready June 15. When ordering, state time within which queens are wanted. They will be mailed promptly or money returned.  
D. G. Little,  
Hartley, Iowa.

**500 SAMPLE QUEENS** at 40c on first 500 orders. Moore's Strain Leather Colored Italians. Write for particulars and prices in quantity. April and May orders booked now on 10 percent deposit. Orders filled promptly or notice given when such deliveries can be made. Regular prices: Untested queen, 75c; six, \$4.25; twelve, \$8.00. Timberline Riggs, breeder.  
Ogden Bee & Honey Co., Ogden, Utah.

**GRAY CAUCASIANS**—Their superior qualities are early breeding; great honey gatherers; cap beautifully white; very prolific; very gentle; great comb builders; not much inclined to swarm; give better body to honey; not much inclined to rob; very hardy; never furious; good winterers; everywhere the best all-purposed bee. Give me a trial order for a queen or nucleus. Prices on application.  
J. J. Wilder,  
Cordele, Ga.

**HAPPY!**—If you wish to be happy just send me an order for some of my beautiful queens. Untested, \$1.00 each; \$4.25 for six; \$8.00 a dozen. Tested, \$1.50 each. Full 8-fr. colonies, single stories with untest. queens, \$7.00; pounds of bees in light combless shipping cases, \$1.25 without queens. Any queens you may desire with these can be sent with bees at prices above. Discounts on large orders. Safe arrival and good satisfaction to all customers. Only best three band and golden Italians. J. B. Atchley, Patton, Calif.

**BEES FOR SALE**—Full colonies eight (Hoffman) frames. Root hive, good honey-gathering stock, \$5.00. Can be shipped about May 15. Nuclei on 2 frames, queen included, \$2.50, or 3 frame, \$3.25. Nuclei ready June 1; none before.  
Geo. W. Barnes,  
20 Kensington Place, Marion, Ohio

**HAVE YOU HEARD** of the famous Atchley queens? If not, you will surely be pleased not only to hear of, but to use these queens. James Whitecotton, of Laguna Uvalde Co., Tex., says: "I am glad you have gone back to rearing queens again. I have been buying Atchley queens for 25 years, and the best queens I ever bought came from you." Only the best three band and goldens. Untested, \$1.00; \$4.25 for six; \$8.00 a dozen. Tested, \$1.50 each. Bees by the pound and full colonies on application. I can handle any sized order. Safe arrival with satisfaction and promptness my motto.  
A. T. Atchley,  
Highland, Calif.

**"A GUIDE POST"**—A guide post that directs to a big honey crop is good queens. We have them, untested goldens or three-band Italians, \$1.00 each; \$4.25 for six; \$8.00 per dozen. Lots of 100 or more, 60cts each. Tested queens, \$1.50 each. Best breeders, \$5.00 each; full 8-frame single story colonies, \$5.00 each. Safe arrival and good satisfaction. Best new crop orange blossom extraction honey; fine indeed. Write for prices.  
Rialto Honey Co., Box 73, Rialto, Calif.

**MOORE'S STRAIN** and Golden Italian queens. Untested, one, \$1.00; 6, \$5.00; 12, \$9.00; 50, \$35. Carniolan, Banat and Caucasian queens. Untested, one, \$1.25; 6, \$6.00; 12, \$10. Tested, any kind, one, \$1.50; 6, \$8.00. Choice breeding queens of any kind, \$5.00 each. Nuclei, 2-frame, \$2.50; 3-frame, \$1.25; 10-frame, full colony, \$5.00. Bees by the pound, \$1.25. Add price of queens desired to all above nuclei and bees. Comb foundation, Circular free. Genuine orange blossom and mountain sage honey, one gallon can, \$1.20; five gallon can, \$5.50; case, two five gallon cans, \$10. Samples, 10c each. Everything securely packed or crated and delivered at Orange depot. Safe arrival and satisfaction on everything we ship guaranteed.  
W. H. Rails, Orange, Calif.

## HONEY AND BEESWAX

**FOR SALE**—Fancy orange-blossom honey. Send for price list.  
James McKee,  
Riverside, Calif.

**WANTED**—Comb, extracted honey, and beeswax.  
R. A. Burnett & Co.,  
6A12t 173 S. Water St., Chicago, Ill.

**FOR SALE**—Fine quality Raspberry-milkweed honey in new 60-lb. cans (2 in case). Write for price.  
P. W. Sowinski,  
Bellaire, Mich.

**FOR SALE**—Spanish-needle, hearts-ease No. 1 light comb, \$3.00 per case; fancy, \$3.25. Mixed fall comb, \$2.50 to \$2.75 a case; 24 Danz. sections to case. Extracted, 120-lb cases 9c per pound.  
W. A. Latshaw Co.,  
Carlisle, Ind.

## SUPPLIES.

**BEE SUPPLIES**, all kinds, low prices. Catalog free.  
J. W. Rouse, Mexico, Mo.

**FOR SALE**—Cedar or pine dovetailed hives, also full line of supplies including Dadant's foundation. Write for catalog.  
A. E. Burdick, Sunnyside, Wash.

**BROTHER BEEKEEPERS**, send for my new prices on Supplies. I can save you money. Beeswax wanted.  
W. D. Soper,  
Jackson, Mich.

**BEE-KEEPER**, let us send our catalog of hives, smokers, foundation, veils, etc. They are nice and cheap.  
White Mfg. Co.,  
4Atf Greenville, Tex.

**FOR SALE**—I am selling foundation and paying the freight to your station anywhere in La. Root's goods for sale. Send me your orders. Am paying 28c cash for wax or 30c in trade delivered here.  
J. F. Archdekin, Big Bend, La.

**STANDARD DOVETAILED HIVES** shipped direct from factory in Iowa. Fine 8 frame for \$6.00. Hoffman frames, \$2.75 per hundred. Plain sections, \$1.20 per M. Write for prices on what you need—a full line.  
The Stover Apiaries, Mayhew, Miss.

**LEWIS BEEWARE**—Root's extractors, smokers, etc. Dadant's Comb Foundation. Large stock always on hand for prompt shipment. Western beekeepers can save money by patronizing the oldest co-operative association of beekeepers. Illustrated catalog free.  
The Colorado Honey Producers' Ass'n,  
Denver, Colo.

**CALIFORNIA** redwood bee-hives, one story with top and bottom, 85c each; supers 25c each; frames, 17c each. Discounts 100 or more, 10 percent. Extracted honey cases, 65c each. Medium brood foundation delivered by prepaid freight anywhere in the U. S. 25 lbs., 60c; 50 lbs., 50c; 100 lbs., 52c. Other grades in proportion. Highest prices paid for wax. Special discount on our supplies. Catalog free.  
Spencer Apiaries Co.,  
Nordhoff, Calif.

## POULTRY

**FOR SALE**—Wild Mallard Duck—12 eggs, \$3.00.  
Ashmead, Williamson, N. Y.

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**PANGBURN** wants you to write for illustrated circular describing his new foundation fastener, the fastest, easiest handled machine on the market. Invented and mfg. by W. S. Pangburn, Center Junction, Iowa.

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G. A. Reuter,  
411 Rush St., Chicago, Ill.

**FOR SALE OR EXCHANGE** for honey or bee supplies, 1912 8 H. P. American twin cylinder motor cycle. Cost \$240. What's your offer?  
Emil E. Nelson, Route 2, Renville, Minn.

## MISCELLANEOUS

**LEARN** Jiu Jitsu by mail. F. McCaun,  
La Gloria, Cuba.

**I AM REWRITING**, revising and enlarging the "Pearce Method of Beekeeping." It was my intention to have it out by the first of March, but owing to a spell of sickness it was delayed, but will be out on or before the first of May. Order then. The price, 50c, will be the same as the first edition.  
Address, J. A. Pearce,  
Rural 1, Grand Rapids, Mich.

**ARE YOU** looking for exceptional bargain? If so, investigate this bee and poultry business, located in one of Idaho's best valleys where failure was never known. \$2000 will buy. You should produce \$1350 with next five months; will guarantee \$1000 crop. Owner has another proposition he wishes to accept, but in order to do so must sell quick. Reason for such a bargain: will give some terms. Address, "Idaho," care American Bee Journal, Hamilton, Ill.

**How many people** are there who really know what good Queen Bees are? We suspect that thousands of beekeepers know, so we claim to know, and can sell good queens to all who wish them. The well known three-bands and Goldens. Untested, \$1.00 each; \$4.25 for six; \$8.00 per dozen. Tested, \$1.50 each. Full eight-frame hives with untested queens, \$5.00 each. Bees in pound packages, \$1.25 f. o. b. Riverside. Promptness and honest treatment, and of course satisfaction and safe arrival. Do not return dead queens to us; just state it on a postal, and we will return one at once.  
Golden Rule Bee Co., Riverside, Calif.

# American Bee Journal



## "NUTMEG QUEENS"

BY RETURN MAIL

Leathered-colored Italians. Hardy, northern reared. Up-to-date methods. Until June 1, tested, \$2.00. After \$1.50. Untested, \$1.00; 12 for \$10. Large orders a specialty.

A. W. YATES 3 Chapman St. HARTFORD, CONN.

### WANTED

WANTED—Bees in lots of 25 to 300 colonies; any style hive. Within 250 miles of Detroit. A. W. Smith, Birmingham, Mich.

WANTED—500 standard frames of drawn comb. State price wanted in first letter. P. A. Spellman, Armstrong Creek, Wis.

### SITUATIONS.

WANTED.—Position by a young man for 1915 with a good beekeeper, anywhere. Have some experience. Warren R. Jonson, R. R. No. 4, Jarvis P. O., Ontario, Canada.

REFINED young man of good habits wants situation with large beekeeper, Iowa or Illinois preferred. Wages including board and lodging. Answer at once. Eugene Kuntzman, Logan, Iowa.

### Statement of Ownership, Management Circulation, Etc.,

of the American Bee Journal, published monthly at Hamilton, Illinois.

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[Signed] M. G. DADANT, *Manager*.

Sworn to and subscribed before me this 30th day of March, 1915.

[SEAL.] H. M. CUERDEN.

*Notary Public.*

My Commission expires Aug. 25, 1917.

## YOUR ORDERS

For tested Queens will be filled by return mail. Three-banded Italians only, bred to a high standard of excellence. Never a case of foulbrood in our apiary, which was established in 1886. Tested Queens, \$1.00. Untested, \$1.00; per doz. \$6.00. Satisfaction guaranteed.

J. W. K. SHAW & CO., Loreauville, La.

## Miller's Strain Italian Queens

By RETURN mail after June 5th to 10th, or money refunded. Bred from best RED-CLOVER strains in the U. S. In full colonies from my SUPERIOR BREEDERS; northern bred for business; long tongued, three banded, gentle, winter well, hustlers, not inclined to swarm; roll honey in. One untested, \$1.00; 6, \$5.00; 12, \$9.00. One select untested, \$1.25; 6, \$6.00; 12, \$11.00. A specialist of 17 years' experience. Safe arrival and satisfaction guaranteed.

I. F. MILLER, Brookville, Pennsylvania

## SELL YOUR QUEENS IN CANADA

IN the Province of Ontario alone there are 11,000 persons producing honey. A very conservative calculation means that there are 50,000 Queens. If you have Queens to sell to Canadian bee men, say so in The Canadian Horticulturist and Beekeeper, the only bee publication in Canada. It is the official organ of the Ontario and New Brunswick Beekeepers' Associations.

Classified rate 3 cents per word—each single number and sign counting as one word. Cash in advance. Specimen copy on request.

**The Canadian Horticulturist and Beekeeper**  
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## TEXAS QUEENS



Circular free

Italians, the pure three-banded stock from imported mothers. Carniolans, the pure dark grey stock from Carniola. Queens will be ready to ship early in March. No disease. Prices, 75 cents each. \$8.00 per dozen.

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### COOL AS A DROP OF DEW

Hand-woven, soft, durable, comfortable. Good as the South American Panama but cooler, lighter, more dressy. Direct from maker to you \$1.50 postpaid. State size and send money order. Money refunded if you are not perfectly satisfied. Very stylish for Ladies this year.

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Read what J. I. Parent of Chariton, N. Y., says: "We cut with one of your Combined Machines last winter 50 chaff hives with 7-in. cap, 100 honey-racks, 500 frames, and a great deal of other work. This winter we have a double amount of hives, etc. to make with this saw. It will do all you say of it." Catalog & price-list free

W. F. & JOHN BARNES  
205 Ruby St., ROCKFORD, ILLINOIS.

## Get the Atchley Queens

It took 30 years to produce the good qualities obtained in this strain of three banded bees. If you haven't some of this stock in your apiary now, you will have, some day.

Untested, \$1.00 each, or \$10.00 a dozen. After April 15, 75c each, or \$8.00 a dozen. Good tested ones \$1.50 each. I can sell you bees or nuclei cheap; write for prices. Satisfaction of all bees and queens guaranteed.

Wm. Atchley, Mathis, San Patricio Co., Texas.

## CARNIOLANS ONLY

Carniolans build up fast in the spring, are very prolific, VERY GENTLE, cap honey very white, enter comb-honey supers readily, gather almost no propolis, and gather almost no propolis, and are the BEST of honey gatherers.

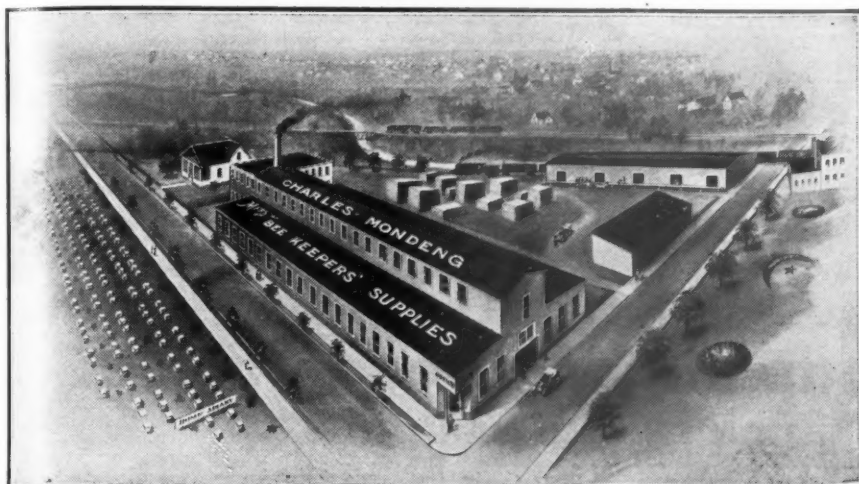
Untested queens, \$1.00 each; dozen, \$9.00  
Tested 1.50 12.00

1-pound package with queen 2.50  
Delivery after May 15, depending upon season somewhat.

ALBERT G. HANN, Clinton, New Jersey



# American Bee Journal



## MILLIONS OF Fine Sections

Thousands of Hives, the best ever made of white pine lumber, ready for prompt shipment. Don't miss them. My goods are guaranteed. A trial order will prove it. 200 colonies of Adels and Carniolans. If you want a square deal, send for my Catalog and Price List. I will pay highest market price for Beeswax in trade.

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146 Newton Ave. North  
Minneapolis, Minnesota

## The Beekeepers' Review

The Review is now owned and published by the beekeepers themselves; in fact, it is the honey producers' own magazine, wholly devoted to their especial needs. We buy supplies for our subscribers, and help them to sell their honey without cost, there being a department where names of those having honey for sale are listed free of charge. Also, if you have bees for sale, there is a department where we list you without a cent's cost. If you want to buy honey, there is a department where you can be listed without charge. Other departments contemplative. If you have beeswax you want made into foundation, we save you money on that. The fact is, the Review's main object of existence is to help its subscribers. As we own it ourselves, why shouldn't it be?

We are just making a special offer to new subscribers, in as much as we are giving away the last eight months of 1914 to all new subscribers for 1915. Those back numbers contain many valuable contributions not found in any other publication. Just listen to a few, not having space here to mention them all: Beginning with the May number Mr. Adrian Getaz gives his experience on preventing swarming; size of entrance to use; home rearing of queens; short cuts in finding queens and other subjects. You should read this. Then there is a two-page article by Wilder, describing his management of 3000 colonies in 50 yards. The fact is, there are nine articles from Mr. Wilder in those back numbers and more to follow. Those articles are not published in any other magazine. You should read them. Then there are several articles from Pearce, telling of his system of managing bees in the production of comb honey without swarming, with only two visits a year. Would you like to know how it is done? Then there are field notes from Michigan, Tennessee, Iowa, Colorado, telling of things done under different conditions. Those will interest you. Then there is the Secretary's corner; there the National Secretary tells his experience, and "boosts honey." These are just a few of the good things you will receive for your dollar by subscribing for The Review. Besides all this, you will get ALL the fine articles written for the National convention at St. Louis in 1914, and during this year all the papers read at the Denver meeting this month will be published in The Review, and nowhere else. The Review is mighty fortunate in having so much available material in sight. You cannot know too much about your business, and these 20 numbers we are offering you for a dollar will help you wonderfully in your future beekeeping. Address your own paper.

**The Beekeepers' Review, Northstar, Mich.**

## QUICK GERMINATION

### SWEET CLOVER SEED

Get our **Specially Treated Hulled Seed** which will germinate 90 percent to 98 percent. A new process. Also causes seed to sprout quickly. Insures a better stand with less seed per acre than ordinarily used. Samples on application.

	1 lb.	10 lbs.	25 lbs.	100 lbs.
White Sweet Clover (unhulled, hand screened).....	20c	\$1.80	\$4.00	\$15.00
" " (unhulled, recleaned).....	25c	2.25	5.00	18.00
" " (hulled, recleaned).....	35c	3.00	6.75	25.00
Yellow " (hulled, recleaned) M. officinalis.....	25c	2.30	5.50	20.00
Alsike Clover Seed (hulled).....	25c	2.00	4.50	17.00

### SPECIAL PRICES ON LARGE QUANTITIES

The recleaned seed is machine cleaned, and is free from chaff, dirt, and light seed. All seed f. o. b. Hamilton, or Keokuk, Iowa at the above prices. No charge for bags.

**DADANT & SONS, HAMILTON, ILLINOIS**

**YELLOW SWEET CLOVER**—Many people fail to recognize the value of Yellow Sweet Clover as a honey plant. The fact that it blooms two weeks earlier than the White variety makes it especially valuable to the beekeeper. Be sure however, to get the *Melilotus officinalis* as quoted above.

## Queens and Bees

Our queens and bees are from the best imported Italian stock. Unexcelled for gentleness and honey. Ready April 1.

One untested queen, 75c; 6, \$4.25; 12, \$8.00. 1/2 lb. of bees, 90c; 1 lb., \$1.25. If a queen is wanted with the bees, add the price. Safe arrival and satisfaction guaranteed.

**N. FOREHAND & CO.,**  
Ft. Deposit, Ala.

## FARM SEEDS

Alsike Clover seed, small red, mammoth. Timothy, Alfalfa, White and Yellow Sweet clover and blue grass, millet, rape, etc. Also thoroughbred seed corn. Catalog apriary supplies free. Write for prices on seeds and samples.

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## We Have Decided

Not to change the prices for 1915, and will not mail new catalogs to our customers unless we are requested. Order from last catalog. Send us list of goods wanted for best prices. No one can beat us. We have been in business since 1899. Reference, any mercantile agency.

**H. S. DUBY & SON, St. Anne, Ill.**

## Leather Colored Italians

About April 1st. I will again be ready to mail untested queens of my fine strain of Italians; I breed no other race. I also have choice tested and breeding queens at all times. Get your orders booked early.

I rear only the kind of queens that are sought for and demanded by successful beekeepers. Get your orders booked early. Cash with order. Satisfaction guaranteed. Untested queens, \$1.00 each; \$9.00 per doz.; \$75 per 100. Choice tested, \$1.50 each; \$15 per doz. Breeders, \$3.00 to \$5.00 each.

**C. S. ENGLE**  
Beeville, Bee Co., Texas

# Weber Service!

At this time of the year it is especially important that the Beekeeper be able to secure his supplies without delay. With the promise of an early spring and a heavy honey-flow this is doubly important.

## Root's Goods and Weber Service

**IS A COMBINATION THAT IS HARD TO BEAT**

We have a reputation for prompt delivery and quick service. Being located in Cincinnati, the gateway of the South, we can save you considerable in transportation charges.

Our 1915 catalog will be promptly mailed to any one interested.

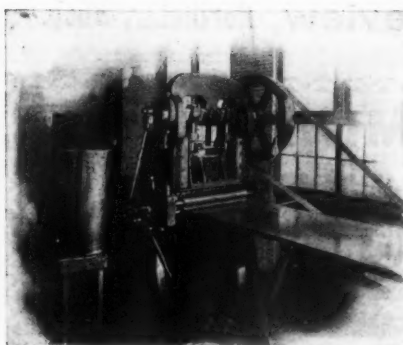
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## MEASURING BEES

The ordinary human being would consider it the height of folly to waste his time measuring so tiny an object as a bee, yet that is precisely what had to be done in order to be able to manufacture honey-boards that would exclude the queens and drones and allow the workers to pass. One of the most ingenious of the many machines used for the manufacture of bee supplies is the one shown in the accompanying illustration, which perforates the zinc sheets so as to leave



**Machine for Perforating Zinc**

openings of exactly 163-1000 of an inch wide. If you have ever tried to measure fractions of an inch you will readily understand that such a machine must, of necessity, be absolutely accurate and exact.

Root's queen-excluding honey-boards are guaranteed to exclude all but the very young virgin queens. They may be obtained from anyone of the many dealers handling Root's goods.

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By using **Dittmer Foundation** the bees like it for it's made to just suit them, and is just like the Natural Comb they make themselves.

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I have moved South to secure more favorable conditions and increased facilities for producing my well known queens and bees, and will do my best to keep up with orders. Cells are built in strong two-story colonies, securing big well-fed cells and mated to select drones. Every queen guaranteed first class. Safe arrival and satisfaction. No disease. Ready April 15, Nuclei May 15.

Order now for early delivery. Untested, \$1.00 each; 6 for \$5.50; doz., \$10; 1-lb. bees, no queen, \$1.50; with queen, \$2.00; 2-fr. nuclei with untested queen, \$3.50; 2 for \$6.50; 5 for \$15. Nuclei on Hoffman frames, wired from full sheets. First-class. Prompt attention to orders. Root's goods for sale.

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Get my prices before placing your orders.

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Best Sections, Best Shipping Cases  
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Best prices you will get for your honey when put up in our sections and shipping cases. "LOTZ" sections and shipping cases have stood the test. Why? Because they are perfect in workmanship, quality and material. Buy LOTZ goods when you want the BEST. Our 1915 catalog ready now. Send your name and get one. H. S. DUBY & SON, St. Anne, Ill., carry a full line of our goods.

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We carry a large stock of all kinds of bee supplies. Drop us a card, making known your wants. We guarantee satisfaction in every way.

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